Building Brand Loyalty and Endorsement with Brand Pages: Integration of the Lens of Affordance and Customer-Dominant Logic

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Abstract

Purpose – Numerous companies have launched brand pages (BPs) on social networking sites to enhance customer-brand communication, cultivate the customer-brand relationship, and promote brand loyalty. This study aims to investigate how BP affordances support social commerce.

Design/methodology/approach – The study devises a theoretical model linking the proposed BP affordances (visibility, selectivity, persistence, and interactivity) to three customer values (relationship quality, brand experience, and smart shopping feeling [SSF]) to encourage brand loyalty and BP endorsement on the part of the customer.

Findings – Data collected from 591 respondents support all proposed hypotheses. The model explains high variances in brand loyalty and BP endorsement, indicating that relationship quality plays a more salient role in producing brand loyalty, while SSF plays a more important role in eliciting BP endorsement.

Originality/value – The study is unique in four ways. First, drawing on the lens of affordance, it proposes specific affordances for BPs and offers empirical results for their applicability. Second, by incorporating CDL into the research model, it illuminates the high explanatory power of these proposed BP affordances on the three customer values. **Integrating the S-O-R model with the affordance perspective and CDL provides a more complete picture of the BP phenomenon.** Third, it extends the reach of existing work by examining BP endorsement in social media as a dependent variable beyond brand loyalty, with SSF included as another source of values to shed more light on the relationships depicted in the model. Fourth, by taking trait competitiveness into account, it sheds further light on relationships between customer values and BP endorsement.

Keywords Affordances; brand pages; customer-dominant logic; endorsement; smart shopper feeling.

Paper type Research paper

1. Introduction

With the advent and popularity of social media (SM) came new avenues for companies to connect and interact with customers. Among these, numerous companies have launched brand pages (BPs)[1] on social networking sites like Facebook and Twitter to enhance customer-brand communication, cultivate the customer-brand relationship, and promote brand loyalty, as well as enable social commerce (Phua et al., 2017; Storm, 2016). A 2016 industry survey reported that 89% of the companies studied leveraged SM to market their brands, products, and services because of its capability to promote brand experience, increase website traffic, develop loyal fans, and obtain marketplace intelligence.[2] Furthermore, 90% of surveyed marketers recognized the importance of SM and BPs to the success of their businesses.[2] However, little research has empirically investigated *what and how BPs afford social commerce*. Lack of such knowledge is surprising given that new SM tools are being eagerly invented and tried out by ambitious companies. One role for academia in this rapidly shifting environment is to study these new trends under rigorous theoretical lenses, identify their affordances, and obtain more insight into this new SM-enabled marketing phenomenon.

Accordingly, in applying the lens of affordance, we seek to address the first research question: *What are BP affordances?* Considering affordances from this perspective presents a relational approach to realizing how people interact with an object or technology (in this case, BPs; Leonardi, 2013). Recently, scholars applied a lens of affordance to explore the impacts of SM on knowledge sharing, then proposed diverse types of affordance derived from their qualitative results (Ellison et al. 2015; Oostervink et al. 2016). Since then, researchers (e.g., Evans et al., 2017; Heinonen and Strandvik, 2015; Oostervink et al., 2016; Zheng and Yu, 2016) have consistently called for empirical studies examining the role of SM affordance in various contexts and refining specific dimensions for each application. In response, we present an extension of the affordance view to empirically investigate BPs.

[1] Brand pages (BPs) in this study refer to BPs on social networking sites.

[2] From "Social media marketing industry report: How marketers are using social media to grow their business," by M. Stelzner, 2016, *Social Media Examiner*. Accessed March 6, 2017. http://www.socialmediaexaminer.com/report2016/

Practitioners have acknowledged that a primary advantage of a BP lies in its ability to enable customers to like, share, and comment on posts, to use the BP (BP endorsement), and to enhance their loyalty to a brand (Popp et al., 2016; Kaur et al., 2016). Likewise, scholars (Zhang et al., 2016; Bernritter et al., 2016) have posited that brand loyalty and customer endorsement are focal outcomes in social commerce. Surprisingly, to date, no study we are aware of has looked at these focal outcomes from the lens of affordance, leaving a research gap to be filled. This observation motivates our second question: *How do these affordances influence brand loyalty and BP endorsement?*

Indeed, while the lens of affordance is valuable in comprehending how both social and material properties change BP use, this perspective does not take into consideration the broader context that influences customer behavior (Oostervink et al., 2016; Seidel and Berente, 2013) and resultant outcomes for social commerce. Hence, the view of affordance alone is insufficient in light of our second question. Given that, in the larger social context, customers are embedded in predominantly determines possible outcomes, customer-dominant logic (CDL) emerges as an alternative means of illuminating the drivers because CDL focuses on how customers embed service in value formation and their thought processes (Heinonen and Strandvik, 2015). Considering the BP as an innovative service that engages customers more efficiently, accumulated experiences with the brand (i.e., brand experience) and the customer-brand relationship (i.e., relationship quality) bring to light core values in the context of SM (Schlager and Maas, 2012). CDL uniquely emphasizes customer activities and experiences beyond the act of service (Heinonen et al., 2010), taking into special consideration relationships between companies and customers. Hence, the lens of affordance, supplemented by CDL, offers unequivocal explanations for this new social media phenomenon from the customer's perspective.

In order to better connect the three-layer constructs along with the lens of affordance and CDL, we employ the stimulus-organism-response model (S-O-R; Mehrabian & Russell, 1974) as an overarching theory to understand what and how the BP affordance (stimulus) influences customers' behaviors. Furthermore, and compatible with CDL, smart shopper feeling (SSF) is an internal self-competence factor customers strive to achieve in their choice and consumption of products and/or services (Schindler 1998).

According to Manzur et al. (2011), SSF may shape brand attitude. Thence, we incorporate SSF, along with brand experience and relationship quality (organism), into the research model in hopes of facilitating further understanding of brand loyalty and BP endorsement (response) in SM. Finally, personality factors may come into play with situational factors in directing one's behavior in a social environment (Ho, 2012). We also consider trait competitiveness as a moderator between BP endorsement and its antecedents, testing its moderating effects in the model.

The contributions to social commerce literature this study provides are fourfold. *First*, drawing on the lens of affordance, we propose a specific affordance for BPs, extend its function from knowledge sharing to social commerce practice as well, and offer empirical results for its applicability. *Second*, by incorporating CDL into the research model, we illuminate how customers embed a BP in their values and complex thought processes around brand experience, relationship quality, and SSF. In this way, our investigation also echoes Heinonen et al.'s (2013) call for further exploration of how value is created and what value creation is defined as by the customer. In addition, integrating the S-O-R model with the affordance perspective and CDL provides a more complete picture of the BP phenomenon. *Third*, we extend the reach of existing work by examining BP endorsement in SM as a dependent variable beyond brand loyalty, with SSF included as another source of values to shed more light on the relationships depicted in our model (Figure 1). *Fourth*, by taking trait competitiveness into account, this study sheds further light on relationships between customer values and BP endorsement. It is also motivated by the dearth of empirical studies on the moderating role of trait competitiveness in the context of BP and SM. Ultimately, our empirical results lend themselves to specific managerial guidelines.

[Insert Figure 1 About Here]

2. Theoretical background and hypotheses development

Created on social media platforms, the BP is a relatively new form of brand community that allows users to "follow" or "like" favorite brands, receive brand updates, and share or comment on posts (Tang et al., 2018; Zhang et al., 2016). By propagating brand content on these user-driven networks, BPs enable

dispersion of a brand message to a much larger and more responsive audience much faster than traditional media (Qualman, 2013). Marketers increasingly employ BPs as an indispensable mechanism for accomplishing crucial marketing goals, such as increasing touch-points to reach customers, fostering customer-brand interaction, enhancing the customer-brand relationship, as well as promoting customer engagement and brand loyalty (Phua et al., 2017; Popp et al., 2016). More concisely, by linking the S-O-R model with the lens of affordance and CDL, this study aspires to explore how a BP affordance supports brand loyalty and BP endorsement in the value co-creation process. Our investigation thus distinguishes itself from past studies by its conceptualization of multidimensional BP affordance and multifaceted BP endorsement, alongside the study of its research questions from the customer's point of view rather than the marketer's.

2.1. The Stimulus-Organism-Response model

The S-O-R model (Mehrabian & Russell, 1974) stipulates that environmental stimuli (S) can initiate internal processes (O; including cognitive and affective reactions), which in turn influence certain responses (R; including attitudinal and behavioral reactions). Recent empirical research on the S-O-R model has consistently supported the idea that attributes of an environment (e.g., a SM's environment, a mobile application's environment) within which people interact (e.g., navigability, interactivity, portability, compatibility) are prominent stimuli that manipulate their intervening processes and, thenceforth, certain approach behaviors (e.g., loyalty, behavioral engagement, continuance intention; Fang, 2014; Fang et al., 2017; Huang, 2016). These findings support the applicability of the S-O-R model to elucidate how online environmental stimuli dominate customers' reactions and behaviors. This observation also confirms the parsimonious feature of the S-O-R model. In addition, the S-O-R model has undergone diverse theoretical extensions (e.g., social capital theory, affect-as-information theory, user engagement theory) that augment its ability to support remarkable explorations within the three-layer framework (Fang, 2014; Fang et al., 2017; Huang, 2016). Conclusively, the S–O–R model is a feasible overarching theory for this study because

it can be combined with multiple theories to devise an interdisciplinary model elucidating what a BP affordance (stimulus) is and how it promotes customers' loyalty and endorsement (responses).

According to the S-O-R model, stimuli (Bagozzi, 1986) are things that provoke action. The S-O-R model, however, does not provide particular factors for the emerging context of BPs. The lens of affordance, along with the concept of BP affordance, complement the S-O-R model in this respect. The second part of the model is organism. The organism may manifest in cognitive and affective internal states, where the cognitive state reflects the process of thought, while the affective state reflects the experience of feeling (Mehrabian & Russell, 1974). A merit of applying the S-O-R model to enlighten our "how" question is that it embraces the intervening processes (including perceptual, physiological, feeling, and thinking activities; Fang, 2014). Since this study focuses on the customers' view, CDL and its associated concepts (relationship quality, brand experience, and smart shopper feeling) are capable of elucidating how BP stimuli guide customers' behavioral responses (i.e., brand loyalty and BP endorsement in this study) through their perceptions of value. Accordingly, CDL contributes to the S-O-R model and to the intervening processes in this regard. In subsequent sections, we discuss related theories along with associated concepts and support for the model.

2.2. The lens of affordance and brand page affordance in social media

The concept of affordance represents possibilities for action (Gibson, 1979) as well as the multidimensional relationship between an object/technology and the user who interacts with it in a specific context (Evans et al., 2017). According to the lens of affordance, users employ the same technology differently, or different technologies similarly (Gibbs et al., 2013). Given the existing dynamic balance around technology use, in terms of tangibility, user traits and expertise, applicability, and milieu, the lens of affordance is uniquely structured for comprehensively exploring these relationships under the same ontological umbrella (Evans et al., 2017). It is thus essential to identify features of the multidimensional nature of affordance because the relational aspect of them requires explaining the prospect of mutual influence, and should not be seen as occurring in either part of the relationship alone (Gibson, 1979). Recently, the lens of affordance has

been prominently applied to the study of knowledge sharing in SM (e.g., Oostervink et al., 2016; Evans et al., 2017). By extending affordance to the context of BPs, this study first seeks to identify affordance suitable in this circumstance that facilitates better understanding of the value of BPs. Basically, SM enables its users to "(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd and Ellison, 2008, p. 211). SM technology not only augments existing behaviors and activities, but also creates novel ones previously unobtainable (Wagner et al., 2014). Particularly, beyond these SM affordances, BPs allow companies to better interact with customers, preserve the history of their brands, accumulate useful information to support customers, and thus intensify brand visibility to and loyalty of their customers (Luarn et al., 2015; Palazon et al., 2019). On BPs, companies can publicize brand posts (including narratives, pictures, and audio material) that target a specific audience and theme to market, advertise, and inform views about their products/services. Customers can interact with these brand posts by liking, sharing, and commenting on them, which can stimulate positive values and experiences toward the brands and the BPs (Palazon et al., 2019). This observation rationalizes why ambitious companies have rushed to create BPs as part of their marketing strategies.

Given that SM technology and SM serve as two building blocks of BPs, we propose an affordance construct, specifically for BPs, formed by visibility, selectivity, persistence, and interactivity, primarily building on the lens of affordance, previous conceptualization of SM affordance (Oostervink et al., 2016; Evans et al., 2017; Chan et al., 2019), and observations. Note that the BP affordance is developed without consolidating other affordance concepts (e.g., webpage/website affordance, brand affordance) because our main focus lies exclusively on BPs from a customer's perspective. Incorporating these concepts along with the BP affordance can deviate from our initial focus and thus confound the concept of BP affordance because it's sub-constructs (e.g., visibility, persistence, interactivity) have taken parts of website affordance into consideration. Specifically, two components of Oostervink et al.'s (2016) SM affordance (i.e., notified attention and associating) were readjusted to fit the BP affordance. We replaced notified attention with customization because customization contains the possibility of receiving notifications when a favored

event happens (e.g., receiving updates from a followed campaign). Following Evans et al.'s (2017) guideline, we readjusted associating to network transparency and repositioned it to the sub-dimension of visibility. Furthermore, in line with previous work (Oostervink et al., 2016; Evans et al., 2017), two components of Chan et al.'s (2019) SM affordance (i.e., information retrieval and accessibility) were readjusted to persistence and visibility, respectively. Briefly, Table I exhibits examples and related literature (including conceptual and empirical works) to support the applicability and suitability of these four sub-constructs of BP affordance along with their first-order constructs.

[Insert Table I About Here]

As Table I illustrates, the concept of affordance emphasizes what a BP enables customers to do. This developing logic is in line with Majchrzak & Markus's (2013) technology affordance. Take customization, one sub-dimension of selectivity, for example. A BP enables customers to readily choose an activity to join in terms of their interests. Although a BP affords customization to benefit its customers, it is the customers' choice whether or not to select a favored activity to follow and receive updates about. This rationale is also consistent with Evans et al.'s (2017) argument that "there are gradations of affordance" (p. 6). Customization can be assessed in consideration of greater or lesser customization. Hence, all sub-components of BP affordance may not be applicable each time a customer visits a BP because there is a range of engagement experiences. In other words, a customer may feel that a BP offers partial affordance for action. Therefore, it is best to take all sub-components of a BP affordance into consideration together to represent a more complete BP affordance because each of them produces qualitative differences in the ability to afford a customer various services. This observation suggests that treating the BP affordance as a third-order construct[3] enables a parsimonious model for examining the overarching effect of its sub-constructs to predict value factors.

[3] The third-order conceptualization is rational because it is consistent with Podsakoff et al.'s (2006) guideline that scholars should use a hierarchical model when a construct is complex because such a model views each sub-construct as a crucial element of the construct. In addition, the third-order model is also in line with a hierarchical conceptualization in the previous studies (e.g., Yi and Gong, 2013; Hossain and Quaddus, 2015).

Among the four second-order constructs, ***visibility*** refers to the potential for user access to discussions, profile information, and communication network connections (Treem and Leonardi, 2013). Scholars have consistently acknowledged it as a prerequisite affordance in the context of social media (Evans et al., 2017). According to Leonardi (2014), visibility is created in the presence of two facets of communication on SM platforms: *information transparency* and *network transparency*. Network transparency denotes awareness of how users/fans of a BP network are connected (Ellison and Boyd, 2013), whereas information transparency denotes accessibility to, and the free flow of, information (Lazarus and McManus, 2006). ***Selectivity*** refers to the possibility to join, follow, or select a particular BP they see as relevant (Gibbs et al., 2013) for them. Selectivity in this study therefore arises from the availability of customization and social comparison. Customization reflects the extent to which BP information can be customized by the user (Shen et al., 2013), whereas social comparison is potential to lessen ambiguity by obtaining self-relevant information from others (Hill, 1987). ***Persistence*** denotes the possibility to access the content of front end and back end narratives (e.g., messages, comments) over time (Faraj et al., 2011; Treem and Leonardi, 2013). Persistence is characterized by communality and informativeness. Communality is the extent to which a BP, as a common repository, enables easy access to information that informs shopping considerations (Phang et al., 2015), whereas informativeness represents the degree to which relevant information can be effectively provided by a BP (Li and Mao, 2015). ***Interactivity*** indicates the extent to which awareness of interaction with a BP can be controlled and synchronized with communication on it (Ou et al., 2014). It involves three components: *active control* (over the communication process), *two-way communication* (reciprocity during communication), and *synchronicity* (synchronized information during communication; Ou et al., 2014). Interactivity is suitable for BP affordance because it is a relational link between the BP, user, and outcome of that interface. It also has variability, which meets affordances criteria (c.f. Evans et al., 2017). Altogether, the lens of affordance facilitates recognition of affordances specific to BPs, and the proposed BP affordance corresponds to the stimulus in the S-O-R model.

2.3. Customer-dominant logic (CDL)

CDL is centered on the perspective of customers, rather than services, service providers, products, or costs (Heinonen et al., 2010). CDL advances a more holistic understanding of customers' lives and emphasizes how services or product offerings can become embedded in their activities, experiences, and practices (Heinonen and Strandvik, 2015). According to Voima et al. (2010), value is a core component of CDL that emerges from the accumulated and continuously restructured reality of customers. Deserving further investigation is how value is formed through a sense-making process customers use to construct their experience of value with regard to service providers' participation in their lives (Heinonen et al., 2010). Providing that customers dominate and orchestrate value formation, CDL focuses on "the value of offerings that customers experience as present in their lives" (Heinonen and Strandvik, 2015, p. 479). Hence, customer experience with a brand (brand experience, in this study) can symbolize, in part, "value-in-life" to take better account of the cumulative and situational elements of a customer's life (Heinonen et al., 2010). In addition, CDL denotes an innovative means of reconsidering relationships between customers and companies (Heinonen and Strandvik, 2015). According to CDL literature (Schlager and Maas, 2012), relationships are not just a source of value, but also an opportunity to better understand customers and their needs. Beyond this, CDL emphasizes the significance of these relationships and how they can be enhanced by companies' actions, adding further value to customers' lives. Altogether, brand experience and relationship quality are two vital building blocks of value. These value perceptions have been identified as the organism in the S-O-R model (Jacoby, 2002). According to the S-O-R model, these value perceptions derived from CDL can be motivated by the BP affordance (i.e., a stimulus), thus linking CDL with the lens of affordance.

2.4. Relationship quality

Relationship quality is the fundamental focus of relationship marketing. It is a judgment on the closeness or strength of the relationship between a customer and brand or company (Zhang et al., 2016). As a multidimensional construct, relationship quality represents an overall assessment of a brand or company

that incorporates three sub-constructs: trust, satisfaction, and commitment. Trust is a customer's belief that the brand (or company) is honest and reliable (Morgan and Hunt, 1994), while commitment denotes a customer's ongoing desire to maintain their relationship with a brand or company (Gustafsson et al., 2005). Both trust and commitment are crucial to sustaining precious relationships between customers and brands, or companies (Zhang et al., 2016). Satisfaction indicates a customer's emotional state arising from global evaluation of interactive experiences with a brand or company (Gustafsson et al., 2005). Satisfaction stems from their expectations and interactions with a brand or company, as well as their shopping experiences (Gustafsson et al., 2005; Zhang et al., 2016). Overall then, relationship quality, manifested as trust, commitment, and satisfaction, is a customer-oriented indicator of the strength and depth of a customer-brand relationship (Smit et al., 2007). It can be regarded as the organism in the S-O-R model because its three sub-constructs are analogous to the cognitive internal state (e.g., judgements of quality, satisfaction, and beliefs; Jacoby, 2002).

Previous work has applied relationship quality to social commerce and examined its antecedents, such as information quality, website quality, interactivity, informational support, emotional support, and SM interaction (Zhang et al., 2016; Hudson et al., 2015). Observations demonstrate the multifaceted nature of these antecedents. This study distinguishes itself from prior research by using the lens of affordance as its theoretical foundation to better present the diverse antecedents of relationship quality attributable to the multidimensionality of affordance and potentially different actions (Evans et al., 2017). As Evans et al. (2017) state, the lens of affordance may elucidate what emerges from customer interaction with an object (in this case, a BP). Four constructs—visibility, selectivity, persistence, and interactivity—are proposed as sub-constructs of BP affordance. Together, they encompass a broader view than the aforementioned antecedents of relationship quality, thus representing a new contribution to this field of research. For example, visibility on a BP is high when fans or customers of a brand can observe who else is connected to the BP, who knows whom, and what others have liked, shared, uploaded, and commented on (Storm, 2016). Clearly then, the affordance of visibility adds value to relationship quality. Beyond the existing antecedents (e.g., information quality, informational support, and emotional support; Zhang et al., 2016), selectivity and

persistence broaden the range of BP affordance improving relationship quality. Likewise, a BP's level of interactivity, exhibited through active control, two-way communication, and synchronicity, paints a richer picture than the single-dimensional focus of previous studies on interactivity alone (e.g., Zhang et al., 2016; Hudson et al., 2015). Taken together, the BP affordance is expected to directly influence relationship quality in this study. In addition, the proposed linkage is compatible with the S-O-R model in that a stimulus (the BP affordance) can initiate people's internal processes (relationship quality). Thus, the first hypothesis is put forth.

H1: The brand page affordance positively affects relationship quality.

2.5. Brand experience

Brand experience refers to "subjective, internal customer responses (sensations, feelings, and cognitions) and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments" (Brakus et al., 2009, p. 53). It holds both cognitive and affective features of internal state and can thus be mapped as the organism in the S-O-R model (Jacoby, 2002). Naturally, brand experience can occur while customers interact with assorted brand cues such as a suitable affordance in BPs. Brand experience is also crucial in marketing because it allows practitioners to elaborate on marketing strategies for goods and services (Brakus et al., 2009). CDL treats customer experience as an essential part of value-in-life, something that improves their lives (Heinonen et al., 2010). Existing literature on brand experience examines both its various antecedents (e.g., usefulness, ease of use, and customer effort) and consequences (e.g., brand loyalty, BP loyalty, word-of-mouth, and brand attachment; Chen et al. 2014; Dolbec and Chebat, 2013). Brakus et al. (2009) also encourage researchers to continue exploration of the subject. Taking into account a multifaceted and holistic view of affordance in this study, we seek to add to the literature by positioning the BP affordance as an antecedent of brand experience. According to Schmitt et al. (2014), brand experience is a cumulative occurrence that can be continuously nurtured by exposing customers to the multifarious cues, associations, and use occasions of a particular brand. In a similar vein, brand experience emerges from assorted interactions with a particular

BP (Brakus et al., 2009). From the customer's perspective, when they interact with the holistic affordance of a BP (i.e., a stimulus), they perceive a point of convergence characterized as the brand experience (i.e., an organism; Iglesias et al., 2011). In short, this observation explicitly links BP affordance to brand experience. This proposed linkage is also in accord with the S-O-R model in which an environmental stimulus can boost people's cognitive and affective reactions. More specifically, visibility, selectivity, persistence, and interactivity are all affordances obtainable in BPs that can capture the assorted brand cues, associations, and use occasions of a brand, thus enriching customer sensations, feelings, cognitions, and behavioral responses to the brand in a meaningful and superior way.

H2: The brand page affordance positively affects brand experience.

2.6. Smart shopper feeling

Smart shopper feeling (SSF) is an ego-oriented feeling arising from a sense of accomplishment, boost in self-esteem, and pride in shopping savoir faire (Garretson et al., 2002). According to Schindler (1998), people develop competence-related self-perceptions when they experience positive consumption outcomes. They want to be smart shoppers, not just for the economic benefit of monetary savings, but also for the psychological benefit of feeling adept at making efficient and effective customer decisions. However, earlier SSF research mainly focuses on efficiency narrowly pertaining to monetary savings when grocery shopping, something considered a routine task involving relatively little customer preference or choice (c.f. Atkins and Kim, 2012). In today's new SM environment (including BPs), customers care about values beyond monetary savings alone (e.g., sensory and emotional experience with a brand, certainty that a brand is trustworthy, and positive inferences of self-competence) when deciding on brand choices and subsequent behaviors. To date, literature on the role of SSF remains scarce given that its platform and applications to new technology only emerged relatively recently (e.g., Park et al., 2015). Consideration of SSF is thus justified because today's busy customers tend to be more concerned about best-value given the time and effort they invest in pursuing hedonic benefits apart from those (like monetary savings) that are merely utilitarian. They desire the self-esteem and positive feelings of competence that arise from perceiving

themselves as smart shoppers (Atkins and Kim, 2012). Apparently, being consistent with CDL and the S-O-R model, SSF may serve as a crucial value (an organism) alongside relationship quality and brand experience in the value co-creation process due to the competence-related self-perception it affords, thus enriching our comprehension of the new context of BPs. According to CDL (Heinonen et al., 2010), a research priority is understanding how value emerges for customers and how, through a sense-making process, they organize their experience of value on BPs in their activities and life. Therefore, exploring the antecedents and consequences of SSF paves the way towards more fully grasping the concerns of CDL.

Following the lens of affordance, CDL, and the S-O-R model, we propose BP affordance be the antecedent of SSF in this study. As "opportunities for action" (Gibson, 1979) in SM, a holistic view of BP affordance amplifies customer inferences of self-competence (e.g., a sense of accomplishment and self-esteem) given what BPs offer them (i.e., selectivity, persistence, interactivity, and visibility) and what they can do with it. In addition, recent work on SSF (Park et al., 2015) studied the context of mobile shopping and, using promotional messaging, confirmed purchase experience as one significant determinant of SSF. Apparently, a BP affordance, or the "multifaceted relational structure" (Faraj and Azad, 2012, p. 254) between a BP and its customers, is more inclusive with regard to antecedents of SSF (beyond promotional message). Customers feel smarter (an organism) when joining a BP if they can view the network and verify information transparency on it, access and control relevant information, establish connections with other users, and experience enhanced interactions with the brand (stimuli). The logic of this proposed linkage is in line with the S-O-R model. Thus,

H3: The brand page affordance positively affects smart shopper feeling.

2.7. Dependent variables: Brand loyalty and BP endorsement

The rationale for treating brand loyalty and BP endorsement as two dependent variables in this study is justifiable given that, according to CDL, the success of BPs is shaped by the process of value co-creation, which joins the marketing efforts of brand managers with the dynamic role of customers who are both contributors to the BP and its beneficiaries (Pongsakornrungsilp and Schroeder, 2011; Popp et al., 2016).

In this context, every customer is a co-creator, producing value not just for themselves, but also the brand and other users. From another perspective, Popp et al. (2016) portray BPs as platforms for brand owners upon which individuals attracted to that brand co-create value, alongside other actors (e.g., users of BPs, as well as fans and customers of the corresponding brands). Therefore, beyond brand loyalty, endorsement of a BP validates the multiple facets of co-creation shaping that brand page, thereby acting as a focal-dependent variable in this study. The rationale for this operationalization and related hypotheses are discussed next.

2.8. Brand loyalty

As a prerequisite for the establishment of any kind of relationship marketing, brand loyalty is a traditional outcome variable in this study due to its significance in understanding customer behavior (Zhang et al., 2016). Previous studies defined brand loyalty as either behavioral or attitudinal. Behavioral brand loyalty mainly emphasizes a customer's brand repurchase and recommendation, whereas attitudinal brand loyalty focuses on a customer's emotional attachment to a brand (Zhang et al., 2016). This study focuses on behavioral brand loyalty because the concept is consistent with another behavioral outcome variable, BP endorsement, and is a common perspective adopted in previous studies (e.g., Jang et al., 2008; Zhang et al., 2016). Thence, this study regards brand loyalty as the extent of influence a brand has on customers when they follow a company's BP, exhibited by the intention to repurchase and recommend the brand to others.

In a sense, when customers like or follow a BP, they not only develop a relationship with the brand, by eliciting feelings of trust, satisfaction, and commitment toward it, but also accumulate pleasurable experiences that make sense of and shape their sensations, feelings, cognitions, and behavioral responses to the brand. According to CDL, relationship and experience with a brand are building blocks of value in the value co-creation process. Thus, loyalty to a brand can be influenced not just by the quality of the customer-brand relationship but also by longstanding brand experience (Brakus et al., 2009; Chen et al., 2014; Reicheld, 1996; Zhang et al., 2016). Recent studies also provide empirical support for these links

between relationship quality, brand experience, and brand loyalty in SM (Chen et al., 2014; Part and Kim, 2014; Zhang et al., 2016). Hence, two hypotheses are put forth.

H4: Relationship quality positively affects brand loyalty.

H5: Brand experience positively affects brand loyalty.

In addition, research on SSF indicates that people vary in their need to obtain the abovementioned psychological benefits, and such differences may guide their subsequent behaviors (Schindler, 1998). Gómez-Suárez et al. (2016) conclude that previous work conventionally attributes positive attitude towards a brand to smart shopper feeling or customer consciousness. Given that brand loyalty can represent one positive outcome related to a brand, the linkage between SSF and brand loyalty can be established as well.

H6: Smart shopper feeling positively affects brand loyalty.

2.9. Brand page endorsement

BP endorsement refers to online SM behaviors connecting customers with brands in ways that are positive, public, and perceived by others—such as liking or following a brand, sharing branded content, and visibly or privately linking oneself with branded content (Bernritter et al., 2016). For example, all Facebook likes are observable on an individual user's Facebook wall (their timeline) and may appear in the algorithm-derived newsfeed of their Facebook friends (Bernritter et al., 2016). This observation suggests a public form of engagement wherein customers' likes are visible to their Facebook friends and related brand content can be distributed to them. Alternatively, private forms of BP engagement correspond to Muntinga et al.'s (2011) content consumption—e.g., viewing pictures, watching videos, and browsing product news. Compared to public engagement, private engagement denotes a relatively lower level of participation. It is included in BP endorsement in this study because it represents positive behaviors wherein customers incorporate the content of a BP into their daily lives. In a sense, public engagement is a way to add value to a BP (e.g., liking and sharing a BP increase its visibility), whereas private engagement corresponds to how customers embed the content of a BP in their life activities. As such, not only does BP endorsement incorporate both public and private engagement, it also exemplifies value co-creation in CDL, which is the

process wherein customers play an active role alongside a brand or company in constructing an experience that meets their needs (Prahalad and Ramaswamy, 2004). Given that customer-brand interaction is a new focus of value co-creation in SM (Wang et al., 2016), and BP endorsement denotes active and passive engagement on the part of customers, studying BP endorsement and its antecedents advances the value co-creation process and how customers embed BPs in this process.

According to Kang (2014), trust and satisfaction are two essential determinants of engagement. People require a trustworthy and satisfying relationship with a brand or company before they engage with it further. This observation suggests that the quality of a relationship with a brand is crucial in determining the extent of public and private engagement on the part of customers. Analogously, this notion is expected to hold in SM because people on these platforms act similarly to the way they do in person. Sheikh et al.'s (2019) study provides empirical support for the link between relationship quality and social commerce intentions. In addition, recent studies suggest that customers are inclined to actively engage with a brand, by liking, sharing, and consuming online content, when their experiences with that brand are positive (Bernritter et al., 2016) and generate favorable cognitions, feelings, sensory and behavioral experiences (Tafesse, 2016). This ultimately establishes the link between brand experience and BP endorsement. Concisely, the above arguments suggest that relationship quality and brand experience, two key sources of value in CDL, can lead to customer BP endorsement in SM. Thus,

H7: Relationship quality positively affects brand page endorsement in SM.

H8: Brand experience positively affects brand page endorsement in SM.

SM literature indicates that the extent of positive self-presentation manifested in the arena of public engagement may be governed by dispositional and contextual variables (Lee-Won et al., 2014). Providing novel opportunities (e.g., instant dissemination of status updates and selective composition of user profiles) to publicly endorse favored BPs helps users selectively construct positive and desirable views of themselves that actively establish positive self-images (Human et al., 2012). As Qiu et al. (2012) state, positive values like these are prerequisites for such SM engagement. Along with other values, like relationship quality and

brand experience, it is also fruitful to take SSF into account when explaining BP endorsement because SSF can be a positive and relevant contextual-variable in the context of BPs. Generally, customers are more apt to like and share posts publicly, as well as read recent posts and engage in other private SM activities, on a particular BP when they value themselves and feel highly competent. This observation puts forth the linkage between SSF and BP endorsement.

H9: Smart shopping feeling positively affects brand page endorsement in SM.

2.10. Trait competitiveness as a moderator

Trait competitiveness, as a personality trait, is the "enjoyment of interpersonal competition and the desire to win and be better than others" (Brown et al., 1998, p. 90). Historically, trait competitiveness has been positively related to performance (Brown et al., 1998), work engagement (Wu et al., 2013), achievement motivation, psychological arousal, learning effort, self-efficacy (Wang and Netemeyer, 2002), and affective and normative commitment (Schrock et al., 2016). Specifically, highly competitive individuals aiming to go beyond the performance of others in the same environments are more inclined to have a higher level of psychological arousal, efficacy, and motivation, and devote their energies to enriching their competitiveness more than those who are less competitive (Yavas et al., 2010). Furthermore, competitive individuals tend to commit themselves to a specific group, wanting (affective commitment) and feeling obligated to (normative commitment) continue engagement with that group (Schrock et al., 2016). Generally, the influence of trait competitiveness occurs in a context embedded with the salience of social comparison (Ho, 2012; Brown et al., 1998). Given that BPs embedded in SM embrace the interactive and social-networked nature (Palazon et al., 2019), social comparison can be implicitly or explicitly observed in the context of BPs. This observation justifies the high relevance between trait competitiveness and the context of BPs. As Connelly et al. (2014) claimed, trait competitiveness is an "applicable, stable over time" type of personality trait, and "would rarely show sudden changes" (p. 77). Collectively, the preceding arguments rationalize why we focuses on trait competitiveness among diverse personality factors.

Aside from the applicability of trait competitiveness to the case of BPs, it is crucial to identify moderating variables that change significant effects into more insightful relationships (Featherman and

Fuller, 2003) between customer values and BP endorsement (co-creation behavior). According to Newby and Klein (2014) and Ho (2012), trait competitiveness can shed light on how individual differences determine one's behavior in social and interactional circumstances. Particularly, special emphasis should be given to examining the moderating role of trait competitiveness (Ho, 2012). This statement is along the lines of the literature on social and interactional psychology that an interaction between personal and situational factors can determine an individual's behavior (Schneider, 1983; Ho, 2012). That is, his/her personality can manipulate his/her motivation and reaction to a situation. Along the same logic, it is possible for trait competitiveness to play a role in fortifying the strength of the link between customer values (relationship quality, SSF, and brand experience) and BP endorsement. The logic of this proposition is also consistent with past literature where personality factors are commonly operationalized as moderator variables (e.g., Ho, 2012). To date, we know of no existing work investigating such an issue in the case of BPs. Hence, this study examines the moderating role of trait competitiveness in order to contribute to the field in response to King et al.'s (2012) call for further exploration of trait competitiveness on other outcomes in different contexts.

In the context of BPs, fans' awareness that their presence or images might be compared with those of other fans is expected to increase their sensitivity and concerns about their competence and how others perceive them (Brown et al., 1998). Such social comparisons grant both observable and implicit cues about a fan's image, competence, and relative contribution to the BP, which can shape both self-concept and judgments made by others. Since competitive fans are more aware of the assessable outcomes of social comparison than less competitive ones (Spence and Helmreich, 1983), they are more likely to undertake further actions to avoid negative evaluations (Brown et al., 1998). Briefly, highly competitive customers are more likely to devote their time and effort to public and private forms of engagement with the BP, when they trust a specific brand, crave an ongoing relationship with the brand, and are satisfied with their overall interaction with the brand (i.e., better relationship quality). Likewise, customers with high trait competitiveness are more prone to dedicate themselves to visibly and privately linking themselves with branded content (BP endorsement) when they generate competence-oriented self-perceptions (SSF)

towards the BP and experience gratifying sensations, feelings, cognitions, and behavioral responses to the brand (satisfied brand experience). Altogether, the preceding arguments put forth the following hypotheses:

H10a: Relationship quality has greater positive effects on BP endorsement when trait competitiveness is high compared to when trait competitiveness is low.

H10b: Brand experience has greater positive effects on BP endorsement when trait competitiveness is high compared to when trait competitiveness is low.

H10c: SSF has greater positive effects on BP endorsement when trait competitiveness is high compared to when trait competitiveness is low.

To control for potentially spurious affects in the proposed model, this study incorporates three descriptive statistical variables as control variables. The first two variables are demographic variables (including age and gender) because scholars have identified their potential role for shaping customers' willingness to use a service and loyalty toward a brand (Kamboj et al., 2018; Fang, 2019). The last one is usage frequency. Previous work indicates that higher usage frequency leads to positive appraisals (e.g., brand loyalty and service usage continuance) when people assess service quality (Lee, 2015; Fang, 2019). Altogether, this study controls for these three variables.

3. Research Methodology

3.1. Measurement development

A priority in the measurement development process is to establish whether constructs should be measured reflectively or formatively (Hardin et al., 2008). As Hardin et al. (2008) claim, psychological constructs are best measured by applying reflective indicators. And consistent with prior operationalization of the following three constructs (e.g., Brakus et al., 2009), we treated the measurement of relationship quality, brand experience, and BP endorsement as three reflective second-order constructs in this study. We operationalize BP affordance as a third-order construct formed by four formative second-order constructs (interactivity, selectivity, persistence, and visibility) in accordance with Hardin et al.'s (2008) instruction

on applying formative indicators to best measure constructs established by an explanatory combination of variables. This operationalization is further compliant with Petter et al.'s (2007) guideline. First, and consistent with the conceptual definitions of these four second-order constructs, the indicators (first-order constructs) should be seen as forming their resultant construct. Second, these four second-order constructs are, by nature, composite measures of the corresponding indicators people may experience while using branded pages. This argument has been empirically supported by recent work, such as Huang et al.'s (2017) "smart tourism technology attributes" and Fang's (2019) "affordances of branded apps". Third, because all indicators are clearly unique, distinguishable, theoretically independent, and not interchangeable, they do not necessarily share a common theme. Moreover, the third-order model allows establishment of a parsimonious model.

All measures of the study were adapted from existing research to fit the purposes of this study and are listed with their sources in Appendix A. Before the formal survey began, three professors and 38 graduate students with BP experience were employed in a pretest of the questionnaire, thereby ensuring its validity, including ease of understanding, sequencing of items, contextual relevance, and logical consistency. Upon receiving feedback from pretest participants, minor amendments in the wording of existing items were made to eliminate ambiguity. Responses to all measurement items are depicted on a seven-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (7).

3.2. Survey administration

To test our hypotheses, we conducted an online survey via Google Docs that collected data from users of Facebook, the most popular SM platform worldwide with 1.94 billion active users monthly.[4] Facebook offers tremendous opportunities for social commerce given its high penetration and high usage numbers. Facebook users who joined or followed certain selected BPs, including those of McDonald's, Moss Burger,

[4] This statistic is based on user data collected in the first quarter of 2017 and posted on the website Statista.com. Accessed Jan. 12, 2018. https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/

Starbucks, Nike, New Balance, Zara, Uniqlo, and some local coffee shops, were invited to participate in our survey. Note that this study exclusively focuses on those brands selling experience goods,[5] such as food, clothing, shoes, etc. This is because experience goods require greater search effort than search goods (Huang et al., 2009). Moreover, the rationale for this study, to invite current users of these BPs to support our survey, is twofold. First, unlike members of general brand communities who are commonly brand aficionados, users of BPs on Facebook are not inevitably fans of the corresponding brands (Popp et al., 2016). In order to assess whether relationships between the S-O-R based factors can be supported (e.g., whether brand loyalty and BP endorsement can be enhanced by the BP affordance through customer values), a prerequisite for participant eligibility was that respondents must have used one of the selected BPs in the past month. Second, participants who were existing users of these BPs were expected to be more likely to employ them when collecting information to comprehensively evaluate product quality before interacting with the targeted product itself.

In order to approach Facebook users with BP experiences, survey invitations were sent to fans/followers of the BPs just listed. An incentive of US$15 in cash was provided to eligible respondents to enhance the quality of survey responses. To ensure respondent eligibility, we first applied a required screen question to rule out respondents who did not use at least one of the listed BPs in the past month. Eligible participants were then instructed to recall their most impressive BP experience over the last month while answering the survey questions. A total of 591 completed and valid questionnaires were obtained and used for data analysis. All respondents were current users of Facebook and the selected BP with an average age of 24.8 years (SD = 5.6 years) and average BP usage of 2.4 hours and 13.4 times per week. In total, 93.2% had an undergraduate or advanced degree, 50.6% were male, and 51.6% remained with the BP for more than one year.

[5] Experience goods are those for which attributes related to product quality are mainly discoverable through experience with the product (Huang et al. 2009).

3.3. Data analysis

A two-step approach was utilized in the data analysis. The first step establishes reliability and validity of the measures by evaluating the measurement model, while the second step examines structural relationships among the latent constructs. SmartPLS (Ringle et al., 2015) was applied to assess both the measurement model and structural model, mainly because it is suitable for evaluating specific complex models like higher-order and hierarchical component models (Hair et al., 2017). Since our model holds both reflective and formative second-order constructs, partial least squares (PLS) was used because it is helpful in assessing extra information relating to their dimensions. Beyond its minimal restrictions on residual distribution, measurement scales, and sample size, PLS is supremely applicable to investigating interactions given that it does not inflate measurement error (Chin and Newsted, 1999).

3.3.1. Measurement model

The adequacy of the measurement model was assessed using the criteria of reliability, convergent validity, and discriminant validity. Table II illustrates that the values of all constructs satisfied the recommended criteria of 0.7 for composite reliability (CR), 0.5 for average variance extracted (AVE), and 0.7 for Cronbach's alpha (α), whereas all indicator loadings were above 0.7, suggesting adequate reliability and convergent validity (Fornell and Larcker, 1981). Discriminant validity is established since (a) the square root of any construct's AVE exceeds its correlations with other constructs in Table II, and (b) the loading of each item on its assigned construct exceeds its loading on any other construct (see Appendix B; Fornell and Larcker, 1981).

[Insert Table II About Here]

Five procedures were performed to avoid common method bias. First, certain reverse-scored items were initially applied to several constructs in the survey design to rule out acquiescence problems (Lindell and Whitney, 2001). Second, the correlation matrix (Table II) did not reveal any highly correlated constructs (e.g., $r > 0.90$; Bagozzi et al., 1991). Third, results of Harman's one-factor test showed that the first factor did not explain a majority of the covariance among all the constructs (11.6%; Podsakoff and Organ, 1986). Fourth, according to Podsakoff et al. (2003), Williams et al. (2003), and Liang et al. (2007),

a common method factor was added to the PLS model to evaluate the method variance. The common method factor incorporated all principal constructs' indicators and we examined each indicator's variances substantively explained by the principal construct and by the method. The squared values of the method factor loadings (R_2^2) represented the percentage of indicator variance caused by the method, whereas the squared loadings of the substantive constructs (R_1^2) represented the percentage of the indicator variance caused by the substantive constructs (see Appendix C). As shown in Appendix C, common method bias is unlikely to be a serious concern because two criteria were satisfied: (1) 64 of 69 method factor loadings were insignificant, and (2) the indicators' substantive variances (R_1^2) were substantially greater than their method variances (R_2^2). Specifically, Appendix C exhibits that the average substantively explained variance of the indicators was 0.74, while the average method-based variance was 0.01. The ratio of substantive variance to method variance was approximately 74:1. Altogether, these results indicate no substantial common method bias in the data. And fifth, multicollinearity is not a serious concern in this study because (a) all AVEs were larger than 0.50, and (b) the variance inflation factors (VIF) ranged from 1.9 to 3.2, well below the cutoff of 5 (Hair et al., 2012).

For the formative composition of BP affordance, we operationalized visibility, selectivity, persistence, and interactivity as second-order constructs of BP affordance and their sub-dimensions as first-order constructs to tackle the issue that affordance variables are highly correlated (e.g., 0.63 in Table II) and potentially nondiscriminant. This operationalization is reasonable since formative constructs help decide whether any of the first-order constructs needs to be disregarded because of high correlations (Chiu et al., 2010; Fang, 2019). The same operationalization has been empirically supported by prior work (Lin et al., 2015; Chiu et al., 2014; Fang, 2017a, 2019), implying sufficient construct validity of the scales. Furthermore, following formative measurement guidelines (Petter et al., 2007), we evaluated the validity of formative constructs in our model by (1) determining multicollinearity among sub-constructs (including both the second-order constructs and the first-order constructs), and (2) assessing the correlations and path weights among higher-order constructs (the third-order construct and the second-order constructs) and their associated sub-constructs. First, a collinearity test was performed using the variance inflation factor (VIF).

As shown in Table III, VIFs ranged from 1.46 to 2.53, well below the cutoff of 3.3 (Diamantopoulos & Siguaw, 2006), suggesting no serious problems with multicollinearity in the data. Second, the bivariate correlations between these higher-order constructs and their corresponding sub-constructs ranged from 0.85 to 0.94 (significant at a p-value of 0.001, Table III), suggesting significantly absolute relationships between them. All the path weights between these higher-order constructs and their corresponding sub-constructs (ranging from 0.26 to 0.59) were significant (see Table III). The significance of the weights validates the relative contribution of the formative measures (Chin, 1998) and thus confirms the reliability of the constructs.

[Insert Table III About Here]

3.3.2. Structural model

In PLS analysis, investigating the structural paths and R-square (R^2) scores of endogenous variables appraises the explanatory power of a structural model. Figure 2 shows all paths were significant ($p < 0.05$), providing support for all hypothesized relationships in our model. The R^2 values for relationship quality (0.52), brand experience (0.57), smart shopping feeling (0.49), brand loyalty (0.53), and BP endorsement (0.56) capture a substantial proportion of the variance explained, thus verifying the validity and explanatory power of the proposed model. Furthermore, a goodness-of-fit (Gof) index (0.58), calculated from the geometric mean of the average communality and average R^2 (for endogenous constructs), exceeds the 0.36 threshold for a large effect size (Wetzels et al., 2009), thereby denoting support for global validity and fit of the PLS-based complex model. Likewise, the standardized root mean square residual (SRMR) was used to assess the model fit measurement for PLS. The SRMR is able to identify a range of model misspecifications and test the structural model validity (Hair et al. 2017). The SRMR value for our model (0.075) is lower than a cutoff value of 0.08, determining a good model fit. Finally, Stone-Geisser's Q^2 value (Stone, 1974) was obtained using a blindfolding procedure to evaluate the predictive power of the model. Q^2 values for relationship quality (0.33), brand experience (0.25), smart shopper feeling (0.31), brand loyalty (0.35), and BP endorsement (0.31) score significantly above 0.15, or reach 0.35, representing

medium-to-large or large predictive relevance for the model (Hair et al., 2017).[6] Overall then, the R^2, Gof, and Q^2 values confirm the reasonably high quality of the proposed model.[7]

[Insert Figure 2 About Here]

Regarding the moderating effects of trait competitiveness (H10a to H10c), additional tests were performed that statistically compared path coefficients from relationship quality, brand experience, and SSF to BP endorsement, respectively, in the structural model for low trait competitiveness, with corresponding path coefficients for high trait competitiveness (Chin and Newsted, 1999). The rationale for applying the subgroup comparison approach was twofold. First, testing outcomes are easier to explain and communicate when we use the subgroup comparison approach (McNeilly and Russ, 1992). Essentially, it permits analysis of the moderator's impact on the level of the relationship. Second, based on Chin et al.'s (2003) guideline, the product indicator approach (i.e., treating trait competitiveness as a continuance variable and cross-multiplying its measures and organism) should be only applied in a model with all reflective constructs. We used a multiple-group approach because our model included a formative construct. **The data were split into high trait competitiveness (296 respondents) and low trait competitiveness (295 respondents) groups using the median. The statistics were calculated following Keil et al.'s (2000) method.[8]** Table IV reveals that, for customers with higher trait competitiveness, all three customer values have greater influence on BP endorsement than for those with low trait competitiveness. Consequently, study results

[6] Hair et al. (2017) suggest that Stone-Geisser's Q^2 values of 0.02, 0.15, and 0.35 suggest small, medium, and large effect sizes, respectively.

[7] We performed a comparison between a second-order factor model (directly treating visibility, selectivity, persistence, and interactivity as stimuli and excluding the BP affordance in the model) and our third-order factor model (including the BP affordance as a third-order factor). Our results indicated that the second-order model (SRMR = 0.086) did not perform better than the third-order one. Most of the R^2, Gof, and Q^2 values for the second-order model were the same as the third-order one (e.g., Gof), whereas certain values were lower than our third-order model (i.e., R^2 for brand experience [0.56], brand loyalty [0.52], and BP endorsement [0.50]; Q^2 for smart shopping feeling [0.30] and BP endorsement [0.28]). This observation confirms the appropriateness of using the third-order conceptualization of BP affordance for our proposed model.

[8] $S_{pooled} = \sqrt{\{[(N_1 - 1) / (N_1 + N_2 - 2)] \times SE_1^2 + [(N_2 - 1) / (N_1 + N_2 - 2)] \times SE_2^2\}}$
$t = (PC_1 - PC_2) / [Spooled \times \sqrt{(1/N_1 + 1/N_2)}]$
where S_{pooled} = pooled estimator for the variance; t = t-statistic with $N_1 + N_2 - 2$ degrees of freedom; N_i = sample size of dataset for group i; SE_i = standard error of path in structural model for group i; PC_i = path coefficient in structural model of group i.

support H10a, H10b, and H10c (t = 49.13, 5.44, and 4.94, respectively, $p < 0.001$), thus confirming the positive moderating role of trait competitiveness in the model. In addition, as shown in Figure 2, none of the three control variables (i.e., age, gender, and usage frequency) are significantly related to brand loyalty and BP endorsement. Our findings are consistent with Fang's (2019) results.

[Insert Table IV About Here]

Post hoc mediation analyses were conducted for three mediators (relationship quality, smart shopping feeling, and brand experience) to examine the potential mediating relationships in order to clarify how the BP affordance supports social commerce (our second research question). Table V showed three significant indirect paths for both brand loyalty and BP endorsement, respectively, derived from bootstrapping mediation tests with 5,000 resamples and a 95% bias-corrected confidence interval (CI) (Preacher and Hayes, 2008). All indirect effects are significant and mediation effects exist because their CIs (the lower and upper CI values) exclude zero. All effects of the BP affordance on brand loyalty (value dropping from 0.68 to 0.37, 0.60, and 0.55, respectively) and BP endorsement (value dropping from 0.66 to 0.62, 0.61, and 0.57, respectively) decrease but hold significant when controlling for the three mediators. Our results revealed partial mediation for these three mediators (see Table V). **Findings also empirically support that BP affordance contributes to customers' brand loyalty and BP endorsement through mediators (i.e., relationship quality, smart shopping feeling, and brand experience). Note that, according to Table V, the direct effects of BP affordance on BP loyalty and BP endorsement after controlling mediators (*c'*) are strong, whereas the mediation mechanisms (*a*b*) seem not so important. However, the direct effects were not hypothesized in our model because we devised the research model and hypotheses primarily based on the S-O-R model and CDL in an attempt to understand the role of value perceptions played in the context of BPs. A further comparison between a new model, including merely BP affordance without any value constructs (relationship quality, smart shopping feeling, and brand experience), and the current model was performed. Results show that the explanatory power (R^2) of the new model decreases to 0.46 for BP loyalty and 0.52 for BP endorsement. The effect sizes (0.15 and 0.09) of the R^2 differences for BP loyalty (7%) and BP endorsement (4%) between the new**

model and the current models indicate a small-to-medium effect and a small effect, respectively (Cohen, 1988). Evidently, the current model holds relatively greater explanatory power than the new model without mediators. This finding verifies the suitableness of the proposed hypotheses in our model.

[Insert Table V About Here]

4. Discussion and implications

This study addresses the crucial but unexplored questions of what a BP affordance is and how it supports social commerce in the context of SM. Regarding conventional wisdom around BPs, our findings are of great importance because the majority of existing research on this marketing phenomenon focuses on brand loyalty, but not BP affordance, SSF, or BP endorsement (e.g., Zhang et al., 2016; Ismail, 2017). Against this backdrop, we devised and tested a theoretical model that applies the lens of affordance to complement CDL in approaching brand loyalty and BP endorsement, thus shedding new light on these issues. In addition, study findings reveal that trait competitiveness can intensify the influences of relationship quality, brand experience, and SSF on BP endorsement (the moderating hypotheses, H10a to H10c). Our results contribute to the field because extant literature is still scarce in the study of moderating effects on the relationship between customer values and endorsement. Study findings are indispensable in further discussions, as are the theoretical implications and some directions for further research.

4.1. Implications for theory

A major contribution of this study lies in extension of the lens of affordance to the context of BPs and proposed third-order affordance with four second-order affordances (i.e., visibility, selectivity, persistence, and interactivity) applicable to BPs, refining and incorporating contextual first-order constructs (e.g., customization, social comparison, informativeness, communality, and active control, along with information and network transparency, etc.). Generally, our results reveal that the proposed construct of BP affordance explains high variances in relationship quality, brand experience, and SSF (52%, 57%, and 49%, respectively). The results empirically support not only the strength of the proposed affordance in explaining

variations in all customer values, but also the applicability of the lens of affordance and CDL to the new milieu of BPs. The four sub-constructs of affordance considered in this study correspond with recent work (Oostervink et al., 2016; Evans et al., 2017), but their first-order constructs are context-driven. High mean values of these first-order constructs (ranging from 5.44 to 5.69) suggest frequent occurrence of these affordances in the context of BPs. As such, this study not only responds to Evans et al.'s (2017) call for empirically investigating the role of affordance in various contexts but expands the horizon of affordance research by proposing a third-order construct of affordance with its four second-order constructs and diverse first-order constructs clearly suitable in the realm of BPs.

Consistent with our expectation, BP affordance formed by visibility, selectivity, persistence, and interactivity has positive and significant influences on all customer values (β values are all above 0.70). Beyond agreement with Zhang et al.'s (2016) results concerning links between information quality, interactivity, and relationship quality, our findings add more value to research in this field for two further reasons. First, in our study, the multifaceted nature of persistence (formed by informativeness and communality), interactivity (formed by active control, two-way communication, and synchronicity), visibility (formed by information and network transparency), and selectivity (formed by customization and social comparison) are given wider consideration than in previous investigations. Second, this study also examines and confirms the influence of BP affordance on other values (i.e., brand experience and SSF). Particularly among the four sub-affordance constructs, as shown in Figure 2, selectivity plays a less prominent role in forming BP affordance (weight = 0.26 compared with that of the others [0.29]). A possible explanation is that, given the context of BPs, currently customized settings and social comparison may be viewed as a basic affordance. Given that BPs have been consistently acknowledged as a platform upon which companies have more opportunities to interact with existing and potential customers (e.g., Phua et al., 2017; Popp et al., 2016), the other three sub-affordances may add more value to generate wider BP affordance. For example, the visibility sub-affordance enables BP users/customers to observe who is connected to a BP and what other users/customers have commented on and/or liked (Storm, 2016), while the interactivity sub-affordance has consistently accentuated its leading role in brand communication in a

range of circumstances (Fang, 2017a, 2017b; Zhang et al., 2016). In sum, these four sub-affordances can jointly generate an overarching BP affordance, which, together, can indeed attract customers' attention by arousing thoughts, feelings, and behavioral responses toward the brand, contribute to increased self-perception as a smart shopper, as well as increase customers' faith in the future performance of a brand (high relationship quality).

Concerning conventional interest in relationship marketing, our findings are of specific importance because the extent of variance in brand loyalty (R^2 = 53%) suggests that the three customer values of relationship quality, brand experience, and SSF are potentially among the most important antecedents of brand loyalty in the context of BPs. Specifically, relationship quality holds the most influential role (β = 0.52) in shaping customers' loyalty towards a brand, whereas SSF has relatively more influence on loyalty (β = 0.19) than brand experience (β = 0.10; Figure 2). The results are not only consistent with Zhang et al.'s (2016) findings regarding relationship quality and loyalty, but extend SSF to the context of BPs as well as loyalty literature, something neglected in past research. Beyond brand loyalty, and based in part on CDL, this study takes another step forward in investigating BP endorsement as an outcome variable symbolizing value co-creation in the context of brand pages. The results empirically support all proposed hypotheses between the three customer values and BP endorsement (H7 to H9). Our results also underscore the prominent role of SSF in affecting customers' endorsement of a BP (β = 0.21), followed by brand experience (β = 0.26), and relationship quality (β = 0.11). This observation implies that beyond brand experience, SSF could be a salient trigger in activating co-creation behavior in customers when they investigate new technology or a new online platform (e.g., Part et al., 2015). Future research extending our SSF and endorsement findings to other applications is encouraged.

Regarding the moderating effect of trait competitiveness, this study makes a superior contribution to extant literature by two means. First, it echoes King et al.'s (2012) call for expanding the effects of trait competitiveness on diverse outcomes in a variety of environments. Second, this study contributes to BP studies by incorporating trait competitiveness to strengthen linkages between customer values and BP

endorsement. Results of moderating effect testing reveal that values-endorsement linkages are positively moderated by levels of trait competitiveness (Table IV). Specifically, highly competitive customers are more willing to publicly and privately engage in a BP once they possess superior relationship quality with the brand, hold competence-directed SSF towards the BP, and gratify enhanced brand experiences with the BP. As aforementioned, BP endorsement represents value co-creation behavior, from the perspective of CDL, wherein customers implicitly and explicitly engage in the content of a BP in their daily lives. Our findings regarding identification of trait competitiveness represent an incremental contribution that offers advanced knowledge of how the effects of situational concerns on individual behavior can be intensified for various individuals, as well as BP research and practice.

4.2. Implications for practice

Numerous companies are rapidly embracing the new BP trend and exploiting its potential to create additional value, reach more customers, and achieve marketing goals for both today's survival and tomorrow's existence (Popp et al., 2016). Based on CDL, BP success relies on the efforts of both companies and customers in the value co-creation process. This, however, poses a challenge for companies because they must not only engage customers with their BP(s) but embed the BP in the online activities of these people. Therefore, beyond the traditional focus on brand loyalty, BP endorsement should be of particular interest to brand managers, BP designers, and companies investing in a BP because it requires such co-creation behavior. Our results show that SSF is the extra value beyond relationship quality and brand experience in facilitating BP endorsement, thus suggesting differences in concern between customers and companies. For BP designers and brand managers, relevant technologies and mechanisms to cultivate SSF in BP users should be incorporated. Although the impact of relationship quality is less prominent than that of brand experience and SSF on BP endorsement, it remains significant in the value co-creation process. Brand managers and BP designers should not ignore relationship quality because it takes the lead in enhancing brand loyalty. Winning the trust, satisfaction, and commitment of customers toward a brand is always a brilliant direction to work in. In addition, the moderating results of trait competitiveness further

suggest BP designers and managers promote interesting and competitive campaigns associated with their brands, products, or services. These activities may attract the attention of competitive customers by arousing their tendency to publicly and privately engage with a BP and brand they perceive as being of high value.

By linking a BP affordance to customer values, this study offers four building blocks of the BP affordance (visibility, selectivity, persistence, and interactivity) and their corresponding mechanisms (e.g., information and network transparency) that, taken together, increase self-perception as a smart shopper, better relationship quality, and enhance brand experience. Although, for BP designers, awareness of BP user networks cannot be easily controlled, openness to information is achievable by presenting useful brand and product or service information (e.g., graphical instructions, FAQs, external links, promotions, and customer reviews). This ultimately suggests that launching a BP is a promising direction for companies and brand managers to take, thereby amplifying customer loyalty towards their brand(s) because they can exploit diverse BP affordances to generate more meaningful brand experiences.

Lesser in magnitude are findings regarding selectivity in forming BP affordances (0.26), but this is not to say that selectivity may be given less attention. A proper explanation of our findings is that the relative importance of the other three BP affordances is context-specific due to them being more easily observable in the context of BPs. Nevertheless, the importance of selectivity should not be discounted. Continuous attention must be paid to these affordances for practical considerations. Moreover, the result regarding selectivity may be conceivable due to underdevelopment of selectivity on existing BPs. This, however, offers a new direction for BP designers—devoting their efforts to practical features and techniques for better-customized user preferences and selections. For companies, it is advisable to integrate their marketing strategies with BPs to more actively involve customers in the value co-creation process.

4.3. Limitations and future research directions

Our study has several limitations that provide promising avenues for future research. *First*, this investigation involves three constructs (relationship quality, brand experience, and SSF) as sources of customer values in its model. Future studies should attempt to explore whether additional BP-related

constructs might serve as sources of value, and explain how they can potentially alter proposed relationships in the model. *Second,* it primarily links the lens of affordance and CDL to investigate brand loyalty and BP endorsement of current BP fans/followers. Former fans/followers might have dissimilar thoughts concerning the proposed relationships, consequently deciding to leave or un-follow a BP. Therefore, our findings should be interpreted as merely illuminating brand loyalty and BP endorsement of current BP fans/followers. Two other interesting directions for future study lie in (a) looking for influential drivers of loyalty and endorsement from the view of former fans/followers, and (b) discovering other lenses or theories to potentially extend and complement the findings of this study. *Third,* it should be noted that the four sub-constructs of BP affordance are specifically developed for the context of BPs. Whether these affordances can be generalized to apply to other types of platforms is uncertain because inherent differences (e.g., characteristics unique to other online brand communities or mobile brand apps) exist between them. Further verification of the generalizability of this study's results is highly encouraged.

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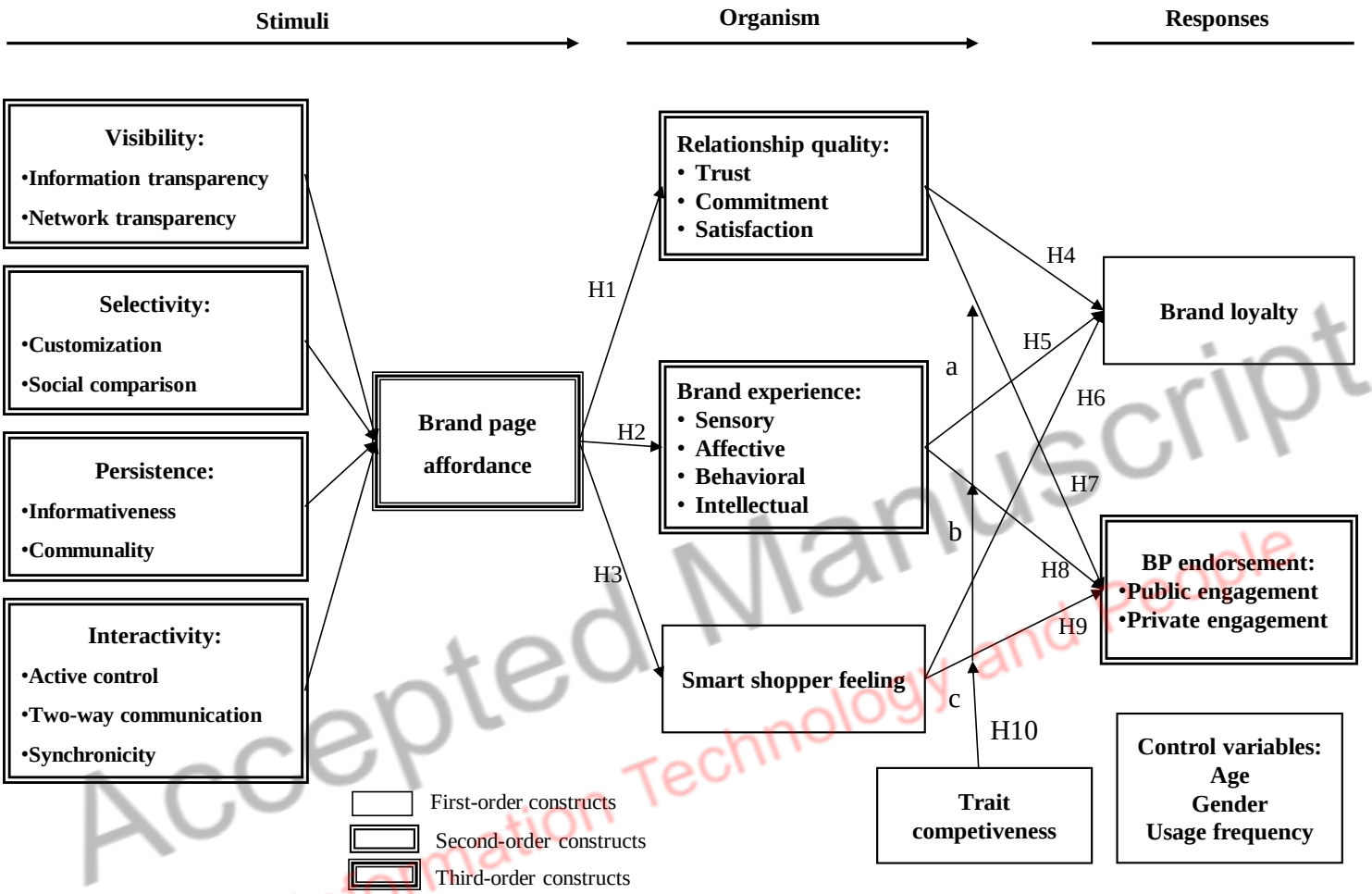
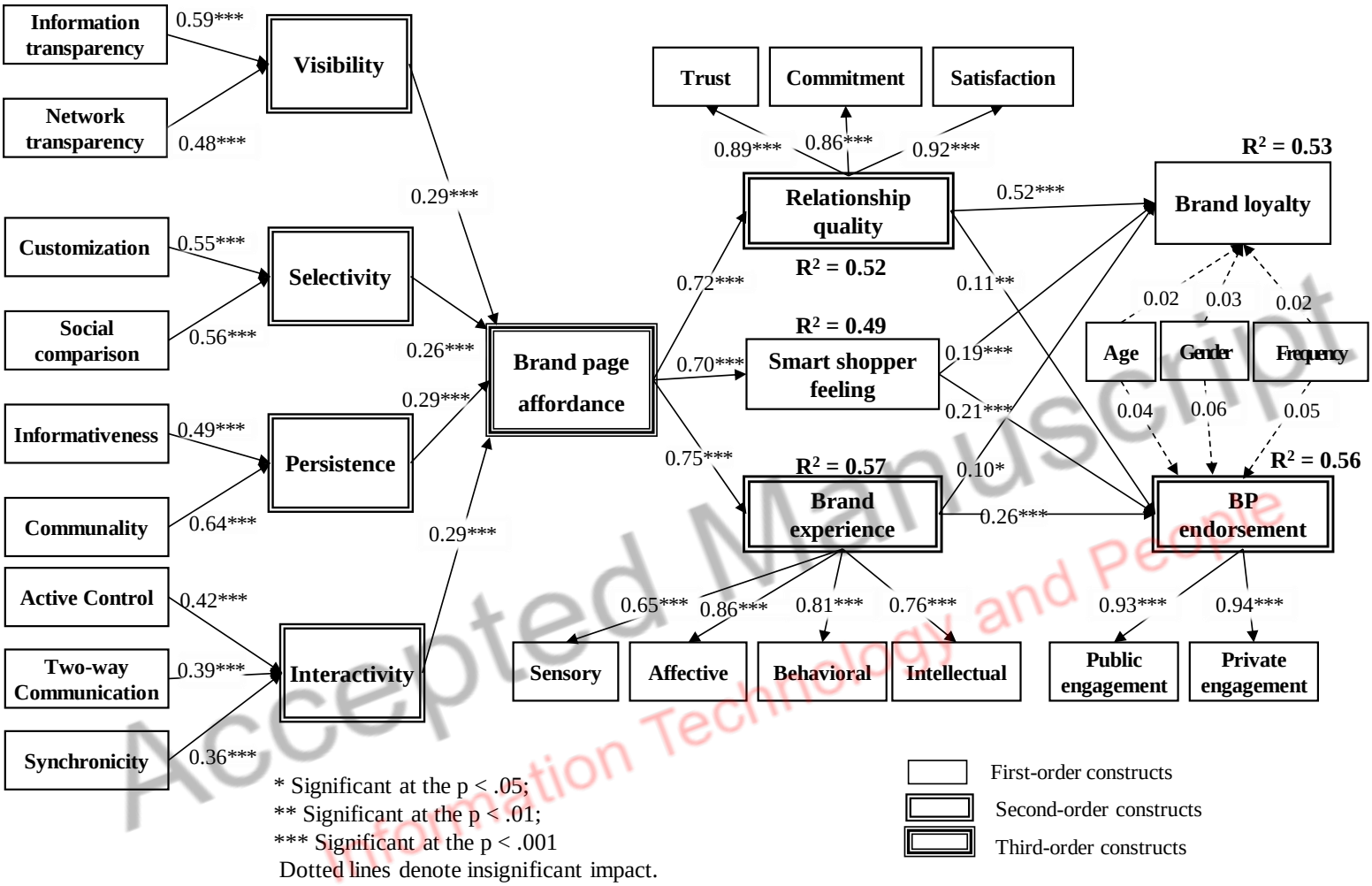


Figure 1. Research model



* Significant at the p < .05;
** Significant at the p < .01;
*** Significant at the p < .001
Dotted lines denote insignificant impact.

Figure 2. Analysis results

Table I. Branded page affordance, examples, and related studies.

Sub-constructs of BP Affordance	1st order constructs of each sub-construct	Examples	Conceptual and empirical support from literature
Visibility	Information transparency	A BP allows customers to track activities and information associated with the brand (e.g., new product releases, contact information) and read posts from other customers on the BP.	**Conceptual** (Kane et al., 2014; Ellison and Boyd, 2013; Leonardi, 2014; Oostervink et al., 2016; Evans et al., 2017; Treem and Leonardi, 2013; Zheng and Yu, 2016) **Empirical** (Li and Mao, 2015; Fang, 2014; Chan et al., 2019; Leonardi, 2015)
	Network transparency	A BP allows customers to know who its fans are and what the connections are between them.	
Selectivity	Customization	A BP allows customers to freely select a particular activity to join and information to follow and read according to their preferences.	**Conceptual** (Oostervink et al., 2016) **Empirical** (Shen et al., 2013; Fang, 2017a, 2017b, 2019; Shang et al., 2012)
	Social comparison	A BP allows customers to look to others for clues when they are not sure about whether to purchase a product/service, how to use the product/service, and/or how to solve their usage problems.	
Persistence	Informativeness	A BP allows its customers to obtain updates (e.g., new product releases) or exclusive information related to products/services (e.g., a promotion code or a coupon exclusive to BP fans).	**Conceptua**l (Oostervink et al., 2016; Evans et al., 2017; Treem and Leonardi, 2013; Ellison et al., 2015; Zheng and Yu, 2016) **Empirical** (DeVito et al., 2017; Fang, 2019; Phang et al., 2015)
	Communality	A BP, serving as a common repository, allows the continued availability of content over time, which helps customers better understand products/services, solve problems related to products/services, and/or improve their usage efficiency.	
Interactivity	Active control	A BP enables customers to readily control their experience with the BP (e.g., allows them decide whether to receive news from it).	**Conceptual** (Evans et al., 2017; Zheng and Yu, 2016) **Empirical** (Ou et al., 2014; Fang, 2017a, 2017b, 2019; Zheng and Yu, 2016; Liu, 2003)
	Two-way communication	A BP enables two-way communication between the BP and its fans/customers.	
	Synchronicity	A BP permits customers' instant access to information, videos, and photos when they click on a link in the BP.	

Table II. Correlations among constructs and the square root of the AVE.

	AVE*	CR†	α±	AC	AF	BL	BE	CO	COM	CUS	IN	INF	IT	NT	PRI	PUB	SA	SC	SE	SY	TC	TR	TW	SSF
AC	0.77	0.91	0.85	**0.88**																				
AF	0.82	0.93	0.89	0.49	**0.90**																			
BL	0.73	0.89	0.81	0.61	0.47	**0.85**																		
BE	0.65	0.85	0.73	0.53	0.60	0.54	**0.80**																	
CO	0.83	0.94	0.90	0.58	0.63	0.57	0.53	**0.91**																
COM	0.77	0.94	0.93	0.43	0.47	0.46	0.45	0.51	**0.88**															
CUS	0.70	0.90	0.85	0.63	0.48	0.54	0.56	0.49	0.48	**0.84**														
IN	0.69	0.86	0.75	0.54	0.53	0.45	0.50	0.51	0.44	0.49	**0.83**													
INF	0.72	0.91	0.87	0.56	0.47	0.55	0.55	0.48	0.56	0.60	0.49	**0.85**												
IT	0.64	0.89	0.85	0.58	0.47	0.57	0.54	0.48	0.57	0.61	0.48	0.59	**0.80**											
NT	0.64	0.88	0.81	0.58	0.48	0.54	0.59	0.51	0.51	0.62	0.46	0.60	0.63	**0.80**										
PRI	0.71	0.88	0.80	0.51	0.46	0.52	0.53	0.45	0.53	0.60	0.50	0.61	0.62	0.59	**0.84**									
PUB	0.66	0.86	0.75	0.52	0.50	0.52	0.55	0.51	0.51	0.63	0.52	0.61	0.61	0.59	0.55	**0.81**								
SA	0.85	0.95	0.91	0.61	0.54	0.59	0.58	0.59	0.44	0.59	0.50	0.54	0.56	0.55	0.52	0.54	**0.92**							
SC	0.73	0.91	0.87	0.59	0.43	0.53	0.55	0.45	0.37	0.63	0.49	0.54	0.61	0.61	0.60	0.61	0.51	**0.85**						
SE	0.75	0.90	0.84	0.45	0.57	0.46	0.55	0.42	0.34	0.49	0.48	0.44	0.49	0.45	0.43	0.42	0.58	0.44	**0.87**					
SY	0.73	0.89	0.81	0.56	0.47	0.53	0.49	0.43	0.52	0.60	0.46	0.59	0.58	0.57	0.57	0.49	0.49	0.45	0.48	**0.85**				
TC	0.70	0.90	0.86	0.38	0.27	0.39	0.31	0.35	0.33	0.39	0.33	0.36	0.40	0.36	0.42	0.37	0.36	0.37	0.25	0.34	**0.84**			
TR	0.87	0.95	0.92	0.56	0.50	0.60	0.50	0.63	0.36	0.49	0.52	0.50	0.49	0.50	0.44	0.46	0.60	0.47	0.50	0.47	0.34	**0.93**		
TW	0.73	0.89	0.81	0.65	0.48	0.56	0.55	0.53	0.40	0.61	0.46	0.55	0.58	0.60	0.47	0.51	0.59	0.57	0.47	0.52	0.34	0.53	**0.85**	
SSF	0.73	0.91	0.87	0.54	0.45	0.53	0.52	0.52	0.51	0.53	0.46	0.54	0.60	0.60	0.55	0.53	0.51	0.52	0.42	0.53	0.43	0.45	0.53	**0.85**

Note: The diagonal elements (in bold) represent the square root of the AVE. Please refer to Appendix A for the abbreviation of each construct.

*AVE, average variance extracted; †CR, composite reliability; ±α, Cronbach's alpha.

Table III. Test results for the BP affordance.

	Bivariance correlations		VIF		Weights	
	2nd order constructs	3rd order construct	2nd order constructs	3rd order construct	2nd order constructs	3rd order construct
1st order constructs		BP affordance		BP affordance		BP affordance
	Visibility	0.91 ***	Visibility	2.43	Visibility	0.29***
Information transparency	0.94***		2.14		0.59***	
Network Transparency	0.92***		2.10		0.48***	
	Selectivity	0.88 ***	Selectivity	2.24	Selectivity	0.26***
Customization	0.90 ***		1.64		0.55***	
Social comparison	0.90 ***		1.65		0.56***	
	Persistence	0.86 ***	Persistence	2.25	Persistence	0.29***
Informativeness	0.85 ***		1.46		0.49***	
Communality	0.91 ***		1.47		0.64***	
	Interactivity	0.89 ***	Interactivity	2.53	Interactivity	0.29***
Active control	0.89 ***		2.24		0.42***	
Two-way communication	0.87 ***		2.10		0.39***	
Synchronicity	0.80 ***		1.52		0.36***	

*** Significant at the p < .001

Table IV. Path coefficients and the results of moderating effect testing for trait competitiveness

	Low TC-β (SE)	**High TC-β (SE)**	Difference (*t*)	Hypotheses Testing
Relationship quality -> BP endorsement (H10a)	0.01 n.s. **(0.05)**	0.27*** **(0.04)**	0.26 (49.13)***	Supported
Brand experience -> BP endorsement (H10b)	0.21*** **(0.05)**	0.29*** **(0.04)**	0.08 (5.44)***	Supported
SSF -> BP endorsement (H10c)	0.20*** **(0.05)**	0.24*** **(0.03)**	0.04 (4.94) ***	Supported

*** Significant at 0.001 level; n.s. denotes insignificant impact; **SE denotes standard errors of path in structural model for the high and low TC groups.**

Table V. Test for mediating effects

Independent variable (IV)	Mediator (M)	Dependent variable (DV)	IV→DV (c)	IV+M→DV (c')	Bootstrap results			
					a*b	Lower CI	Upper CI	Mediation?
BP affordance	RQ	Brand loyalty	0.68***	0.37***	0.38	0.30	0.48	Yes
	SSF			0.60***	0.10	0.01	0.20	Yes
	BE			0.55***	0.15	0.04	0.26	Yes
	RQ	BP endorsement	0.66***	0.62***	0.10	0.01	0.19	Yes
	SSF			0.61***	0.09	0.03	0.18	Yes
	BE			0.57***	0.08	0.01	0.16	Yes

*** $p < 0.001$; c, direct effect of independent variable on dependent variable; c', total effect of independent variable on dependent variable including the mediator; ***a*b***, indirect effect of independent variable on dependent variable through the mediator; Lower CI, lower level confidence interval (2.5%); Upper CI, upper level confidence interval (97.5%); RQ, relationship quality; SSF, smart shopping feeling; BE, brand experience.

Appendix A. Summary of questionnaire items.

Construct Items		Loadings
Active Control (AC) (Liu, 2003)		
AC1	I **feel** I **have** a lot of control over my BP experience on Facebook.	0.89
AC2	While using the BP on Facebook, I **can** freely choose what I wanted to see.	0.90
AC3	While using the BP on Facebook, my actions **decide** the kind of experiences I **have**.	0.84
Two-Way Communication (TW) (Liu, 2003)		
TW1	The BP facilitates two-way communication between customers and the BP.	0.87
TW2	The BP gives customers the opportunity to register feedback about the brand.	0.87
TW3	The BP makes me feel like the company behind the brand wants to listen to customers.	0.81
Synchronicity (SY) (Liu, 2003)		
SY1	The BP **processes** my input very quickly.	0.87
SY2	I **am** able to get information from the BP very rapidly.	0.88
SY3	When I **click** on the BP, I **feel** I **am** getting instantaneous access to information about the brand/company, as well as its products and services.	0.81
Smart Shopper Feeling (SSF) (Garretson et al., 2002; Manzur et al., 2011)		
SSF1	When I shop smartly, I feel like a winner.	0.82
SSF2	When I go shopping, I take a lot of pride in making smart purchases.	0.84
SSF3	Making smart purchases makes me feel good about myself.	0.85
SSF4	I get a real sense of joy when I make wise purchases.	0.80
SSF5	I have a feeling of achievement when I feel I have made the best buy.	0.78
Sensory (SE) (Brakus et al., 2009)		
In using the BP on Facebook, . . .		
SE1	I feel that this brand makes a strong impression on my visual or other senses.	0.86
SE2	I find this brand interesting in a sensory way.	0.88
SE3	This brand does not appeal to my senses. (R)	0.86
Affective (AF) (Brakus et al., 2009)		
In using the BP on Facebook, . . .		
AF1	I feel that this brand elicits feelings and sentiments.	0.90
AF2	I do not have strong emotions regarding this brand. (R)	0.92
AF3	I feel that this brand is emotion-provoking.	0.90
Behavioral (BE) (Brakus et al., 2009)		
In using the BP on Facebook, . . .		
BE1	I engage in physical actions and behaviors when I use this brand.	0.81
BE2	I can feel physically motivated by this brand.	0.83
BE3	I feel that this brand is not action-oriented. (R)	0.78
Intellectual (IN) (Brakus et al., 2009)		

In using the BP on Facebook, . . .		
IN1	I engage in a lot of thinking when I encounter this brand.	0.79
IN2	This brand does not make me think. (R)	0.79
IN3	This brand stimulates my curiosity and propensity to problem solve.	0.86
Communality (COM) (Phang et al., 2015)		
The Facebook BP has a centralized information repository and accompanying mechanism for easy information exchange that . . .		
COM1	**improves** understanding about the product/service.	0.81
COM2	**provides** better knowledge of the product/service.	0.87
COM3	**offers** ways to obtain solutions that improve on the customer experience associated with the product/service (e.g., how to use the product/service to maximize task efficiency).	0.91
COM4	**allows** more thorough consideration of the product/service associated with this brand.	0.90
COM5	**offers** suggestions regarding how the product/service can be improved.	0.89
Informativeness (INF) (Li and Mao, 2015; Fang, 2014).		
In using the BP on Facebook, . . .		
INF1	I feel informed, via updates and other content, about brand-related things I should pay attention to (e.g., new product releases).	0.79
INF2	I am able to receive information on a product or service I am looking to use or will potentially need.	0.88
INF3	I am able to find complete information about the product/service.	0.88
INF4	I can obtain relevant or exclusive information about the product/service.	0.83
Customization (CUS) (Fang, 2017a)		
CUS1	I feel my personal preferences have been considered when using the BP.	0.76
CUS2	The BP provides me with information according to my preferences.	0.84
CUS3	Information the BP sends me is tailored to my situation given the customization options available for me to choose from.	0.87
CUS4	The BP provides me information I feel interested in, and/or may feel interested in later.	0.86
Social Comparison (SC) (Hill, 1987)		
The BP on Facebook allows me to . . .		
SC1	associate with others I can compare myself to when I am not certain about how well I am managing a brand-related task (e.g., making a purchase decision).	0.85
SC2	look to other **people's posts** to see how my experience compares to theirs (e.g., especially via experiences and opinions posted by customers).	0.87
SC3	look to certain others for cues about what is expected of me when, for example, completing a brand-related action or participating in a certain social situation (i.e., making a purchase decision, or deciding what to wear on a particular occasion).	0.86
SC4	identify and interact with other people who are experiencing the same thing(s) I am when I am unsure of a product- or service-related issue (e.g., how to use a product or service).	0.83
Brand Loyalty (BL) (Zhang et al., 2016)		

BL1	I will buy products associated with the brand next time.	0.86
BL2	I intend to keep purchasing products associated with this brand.	0.88
BL3	I will recommend the brand to others.	0.82
Trust (TR) (Zhang et al., 2016)		
TR1	I find that the brand is safe.	0.93
TR2	I believe that this is an honest brand.	0.93
TR3	I confirm that this is a reliable brand.	0.94
Commitment (CO) (Zhang et al., 2016)		
The relationship I have with the brand . . .		
CO1	is something I am very committed to.	0.91
CO2	is something I intend to maintain indefinitely.	0.91
CO3	deserves my maximum effort to maintain.	0.90
Satisfaction (SA) (Zhang et al., 2016)		
SA1	I am satisfied with the brand.	0.93
SA2	I am pleased with the brand.	0.93
SA3	I am happy with the brand.	0.92
Network Transparency (NT) (Kim et al., 2015)		
NT1	The Facebook BP allows me to figure out its fans' number of connections.	0.77
NT2	The Facebook BP allows me to read public (fan-to-fan and brand-to-fan) messages (e.g., comments and Q&A, respectively).	0.80
NT3	The Facebook BP allows its users to tag activities.	0.83
NT4	The Facebook BP allows me to know who knows whom (i.e., who are its fans and what are the connections between them).	0.80
Information Transparency (IT) (Al-Jabri and Roztocki, 2015)		
IT1	The Facebook BP allows me to track activities the brand is involved in.	0.76
IT2	The Facebook BP allows me to find vital information on the brand profile page (e.g., contact information).	0.79
IT3	The Facebook BP allows me to read posts (e.g., comments) from its customers.	0.80
IT4	The Facebook BP allows me to access its product/service information (e.g., specifications, photos, videos).	0.79
IT5	Overall, the openness of the Facebook BP enhances transparency between the brand and its customers.	0.80
Private Engagement (PRI) (Bernritter et al., 2016)		
PRI1	I would like to visit this BP and browse the content of its posted hyperlink.	0.76
PRI2	I would like to read the content of this BP.	0.87
PRI3	I would follow the activities announced on this BP.	0.90
Public Engagement (PUB) (Bernritter et al., 2016)		
PUB1	I would like to "Like" posts from this BP on Facebook.	0.81
PUB2	I would like to share posts from this BP on Facebook.	0.86

PUB3	I would appreciate content from this BP appearing on my Facebook timeline.	0.76
Trait Competiveness (TC) (Helmreich and Spence, 1978)		
TC1	I enjoy working in situations involving competition with others.	0.78
TC2	It is important to me to perform better than others.	0.86
TC3	I feel that winning is important in both work and games.	0.83
TC4	I try harder when I am in competition with other people.	0.87

Note. R = reverse-coded.

Appendix B. Cross-loadings.

	AC	AF	BE	BL	CO	COM	CUS	IN	INF	IT	NT	PRI	PUB	SA	SC	SE	SSF	SY	TC	TR	TW
AC1	**0.89**	0.50	0.51	0.55	0.56	0.45	0.54	0.53	0.51	0.54	0.53	0.47	0.49	0.55	0.51	0.42	0.49	0.52	0.35	0.50	0.59
AC2	**0.90**	0.43	0.45	0.57	0.53	0.38	0.54	0.48	0.49	0.51	0.52	0.44	0.46	0.56	0.51	0.38	0.50	0.53	0.32	0.50	0.60
AC3	**0.84**	0.36	0.44	0.48	0.44	0.28	0.56	0.41	0.46	0.47	0.48	0.42	0.42	0.52	0.54	0.39	0.42	0.42	0.34	0.47	0.59
AF1	0.46	**0.90**	0.59	0.44	0.56	0.42	0.46	0.52	0.44	0.44	0.44	0.41	0.46	0.54	0.42	0.59	0.40	0.44	0.26	0.48	0.46
AF2	0.45	**0.92**	0.52	0.43	0.59	0.43	0.43	0.45	0.43	0.44	0.42	0.41	0.47	0.50	0.37	0.49	0.41	0.42	0.25	0.47	0.43
AF3	0.42	**0.90**	0.53	0.40	0.55	0.43	0.42	0.47	0.39	0.40	0.45	0.42	0.42	0.43	0.37	0.47	0.40	0.41	0.23	0.39	0.41
BE1	0.44	0.51	**0.81**	0.45	0.49	0.40	0.44	0.43	0.42	0.44	0.47	0.39	0.43	0.49	0.43	0.42	0.45	0.40	0.25	0.44	0.43
BE2	0.42	0.50	**0.83**	0.40	0.41	0.35	0.43	0.41	0.39	0.42	0.48	0.43	0.44	0.40	0.43	0.42	0.41	0.37	0.25	0.36	0.41
BE3	0.42	0.45	**0.78**	0.45	0.37	0.32	0.50	0.36	0.51	0.44	0.49	0.45	0.46	0.52	0.45	0.49	0.39	0.41	0.25	0.42	0.48
BL1	0.43	0.35	0.40	**0.86**	0.44	0.42	0.43	0.30	0.47	0.45	0.46	0.41	0.38	0.50	0.39	0.33	0.47	0.46	0.35	0.46	0.42
BL2	0.44	0.35	0.43	**0.88**	0.43	0.39	0.44	0.33	0.44	0.48	0.42	0.44	0.44	0.54	0.44	0.36	0.44	0.40	0.33	0.45	0.43
BL3	0.60	0.47	0.53	**0.82**	0.56	0.36	0.51	0.48	0.49	0.51	0.48	0.48	0.49	0.58	0.50	0.46	0.45	0.50	0.32	0.59	0.55
CO1	0.52	0.60	0.46	0.50	**0.91**	0.47	0.47	0.49	0.44	0.43	0.45	0.40	0.46	0.59	0.39	0.40	0.47	0.39	0.32	0.58	0.47
CO2	0.59	0.57	0.53	0.58	**0.91**	0.46	0.46	0.47	0.46	0.48	0.50	0.44	0.47	0.58	0.47	0.42	0.50	0.42	0.33	0.57	0.54
CO3	0.47	0.55	0.44	0.48	**0.90**	0.47	0.41	0.44	0.40	0.40	0.44	0.39	0.48	0.57	0.36	0.33	0.44	0.35	0.30	0.50	0.43
COM1	0.32	0.37	0.35	0.33	0.42	**0.81**	0.34	0.35	0.48	0.47	0.42	0.46	0.41	0.30	0.21	0.25	0.44	0.49	0.29	0.27	0.28
COM2	0.37	0.41	0.40	0.42	0.45	**0.87**	0.42	0.38	0.49	0.54	0.44	0.50	0.44	0.38	0.35	0.31	0.46	0.47	0.30	0.35	0.37
COM3	0.40	0.44	0.42	0.43	0.46	**0.91**	0.44	0.40	0.48	0.51	0.46	0.47	0.47	0.40	0.36	0.34	0.47	0.46	0.31	0.33	0.36
COM4	0.38	0.43	0.40	0.43	0.46	**0.90**	0.41	0.41	0.49	0.49	0.45	0.44	0.42	0.40	0.33	0.32	0.44	0.45	0.28	0.30	0.37
COM5	0.40	0.41	0.40	0.40	0.46	**0.89**	0.48	0.40	0.51	0.49	0.45	0.46	0.50	0.42	0.36	0.27	0.44	0.44	0.26	0.34	0.40
CUS1	0.48	0.41	0.44	0.46	0.40	0.47	**0.76**	0.40	0.59	0.56	0.55	0.55	0.52	0.51	0.44	0.43	0.44	0.54	0.34	0.41	0.45
CUS2	0.55	0.40	0.46	0.46	0.39	0.35	**0.84**	0.39	0.54	0.53	0.55	0.48	0.53	0.48	0.57	0.38	0.44	0.46	0.33	0.40	0.53
CUS3	0.54	0.38	0.45	0.44	0.39	0.34	**0.87**	0.41	0.55	0.54	0.56	0.47	0.52	0.47	0.55	0.38	0.43	0.47	0.30	0.41	0.52
CUS4	0.51	0.42	0.52	0.44	0.43	0.43	**0.86**	0.42	0.58	0.57	0.58	0.50	0.51	0.52	0.51	0.44	0.46	0.55	0.31	0.41	0.50
IN1	0.46	0.36	0.39	0.38	0.34	0.33	0.44	**0.79**	0.42	0.42	0.37	0.38	0.37	0.42	0.41	0.40	0.37	0.41	0.27	0.44	0.41
IN2	0.39	0.43	0.34	0.30	0.41	0.35	0.32	**0.79**	0.33	0.30	0.34	0.40	0.41	0.31	0.35	0.30	0.30	0.29	0.23	0.34	0.31
IN3	0.47	0.50	0.48	0.41	0.49	0.40	0.43	**0.86**	0.45	0.45	0.42	0.45	0.49	0.47	0.43	0.46	0.44	0.43	0.31	0.48	0.41
INF1	0.50	0.41	0.49	0.48	0.39	0.46	0.55	0.44	**0.79**	0.54	0.53	0.49	0.45	0.48	0.46	0.41	0.48	0.60	0.31	0.45	0.49
INF2	0.48	0.41	0.48	0.48	0.42	0.50	0.59	0.45	**0.88**	0.57	0.54	0.54	0.56	0.46	0.51	0.39	0.48	0.54	0.34	0.43	0.47

	AC	AF	BE	BL	CO	COM	CUS	IN	INF	IT	NT	PRI	PUB	SA	SC	SE	SSF	SY	TC	TR	TW
INF3	0.47	0.40	0.46	0.44	0.40	0.46	0.60	0.39	**0.88**	0.54	0.52	0.49	0.53	0.43	0.47	0.35	0.41	0.49	0.27	0.41	0.46
INF4	0.45	0.37	0.43	0.47	0.41	0.47	0.58	0.39	**0.83**	0.57	0.55	0.55	0.52	0.46	0.40	0.35	0.47	0.49	0.30	0.42	0.45
IT1	0.45	0.35	0.46	0.47	0.39	0.49	0.53	0.35	0.54	**0.76**	0.56	0.53	0.47	0.48	0.42	0.41	0.52	0.53	0.32	0.42	0.45
IT2	0.46	0.39	0.43	0.47	0.36	0.40	0.49	0.36	0.47	**0.79**	0.51	0.52	0.41	0.47	0.50	0.42	0.48	0.49	0.30	0.38	0.46
IT3	0.49	0.38	0.42	0.44	0.36	0.39	0.59	0.41	0.51	**0.80**	0.58	0.50	0.52	0.47	0.55	0.38	0.52	0.47	0.28	0.40	0.48
IT4	0.45	0.35	0.41	0.43	0.37	0.43	0.48	0.40	0.52	**0.79**	0.54	0.52	0.50	0.41	0.49	0.34	0.53	0.45	0.34	0.38	0.47
IT5	0.43	0.40	0.40	0.42	0.40	0.51	0.50	0.38	0.53	**0.80**	0.55	0.56	0.49	0.38	0.45	0.36	0.54	0.50	0.35	0.36	0.42
NT1	0.52	0.40	0.48	0.51	0.40	0.40	0.59	0.42	0.57	0.52	**0.77**	0.49	0.47	0.46	0.50	0.42	0.50	0.51	0.30	0.42	0.51
NT2	0.48	0.38	0.48	0.45	0.44	0.41	0.57	0.34	0.50	0.54	**0.80**	0.46	0.48	0.48	0.51	0.35	0.51	0.47	0.27	0.44	0.56
NT3	0.46	0.38	0.47	0.39	0.41	0.39	0.47	0.36	0.48	0.57	**0.83**	0.44	0.45	0.42	0.45	0.33	0.46	0.43	0.27	0.39	0.42
NT4	0.41	0.39	0.47	0.37	0.38	0.42	0.55	0.37	0.47	0.56	**0.80**	0.51	0.48	0.40	0.49	0.35	0.47	0.41	0.30	0.35	0.42
PRI1	0.51	0.45	0.48	0.47	0.45	0.37	0.57	0.44	0.47	0.54	0.51	**0.76**	0.55	0.52	0.54	0.42	0.48	0.47	0.35	0.43	0.47
PRI2	0.38	0.38	0.42	0.40	0.33	0.49	0.45	0.43	0.54	0.56	0.49	**0.87**	0.53	0.40	0.43	0.36	0.46	0.48	0.33	0.35	0.36
PRI3	0.40	0.35	0.43	0.45	0.38	0.47	0.51	0.41	0.53	0.55	0.51	**0.90**	0.49	0.41	0.50	0.31	0.46	0.50	0.38	0.35	0.38
PUB1	0.38	0.35	0.45	0.45	0.37	0.50	0.48	0.44	0.57	0.57	0.50	0.52	**0.81**	0.42	0.44	0.32	0.45	0.49	0.33	0.37	0.34
PUB2	0.40	0.40	0.43	0.35	0.42	0.40	0.50	0.40	0.47	0.42	0.45	0.52	**0.86**	0.36	0.48	0.26	0.35	0.32	0.23	0.32	0.41
PUB3	0.51	0.47	0.48	0.49	0.48	0.33	0.56	0.43	0.44	0.50	0.49	0.49	**0.76**	0.54	0.57	0.46	0.50	0.38	0.35	0.45	0.52
SA1	0.59	0.49	0.53	0.57	0.56	0.41	0.53	0.45	0.51	0.51	0.50	0.47	0.49	**0.93**	0.47	0.53	0.46	0.46	0.36	0.59	0.60
SA2	0.57	0.52	0.56	0.56	0.54	0.40	0.56	0.47	0.48	0.53	0.52	0.49	0.51	**0.93**	0.49	0.54	0.49	0.45	0.33	0.59	0.60
SA3	0.59	0.49	0.54	0.59	0.55	0.40	0.56	0.47	0.50	0.53	0.52	0.48	0.48	**0.92**	0.45	0.55	0.46	0.45	0.31	0.55	0.57
SC1	0.47	0.37	0.47	0.41	0.37	0.27	0.49	0.37	0.40	0.44	0.48	0.42	0.44	0.40	**0.85**	0.35	0.41	0.32	0.31	0.40	0.47
SC2	0.54	0.37	0.48	0.50	0.40	0.31	0.59	0.44	0.47	0.57	0.58	0.53	0.55	0.48	**0.87**	0.43	0.46	0.41	0.34	0.43	0.51
SC3	0.53	0.32	0.45	0.45	0.38	0.35	0.55	0.42	0.51	0.51	0.49	0.56	0.55	0.43	**0.86**	0.35	0.42	0.40	0.31	0.37	0.48
SC4	0.49	0.40	0.47	0.44	0.39	0.34	0.50	0.44	0.47	0.56	0.52	0.55	0.54	0.42	**0.83**	0.36	0.47	0.39	0.31	0.41	0.49
SE1	0.34	0.48	0.42	0.31	0.35	0.25	0.35	0.39	0.31	0.35	0.35	0.31	0.30	0.41	0.31	**0.86**	0.32	0.37	0.21	0.37	0.35
SE2	0.37	0.45	0.45	0.38	0.29	0.30	0.42	0.41	0.40	0.42	0.38	0.36	0.38	0.46	0.39	**0.88**	0.37	0.41	0.20	0.40	0.39
SE3	0.46	0.56	0.56	0.49	0.44	0.33	0.49	0.44	0.43	0.48	0.45	0.43	0.41	0.57	0.43	**0.86**	0.41	0.45	0.25	0.52	0.47
SSF1	0.49	0.36	0.40	0.46	0.44	0.35	0.48	0.41	0.44	0.54	0.51	0.48	0.46	0.46	0.52	0.37	**0.82**	0.45	0.39	0.42	0.51
SSF2	0.48	0.37	0.41	0.44	0.40	0.36	0.46	0.40	0.42	0.52	0.49	0.43	0.44	0.41	0.47	0.35	**0.84**	0.41	0.35	0.37	0.45
SSF3	0.47	0.38	0.49	0.47	0.41	0.41	0.47	0.37	0.48	0.59	0.53	0.47	0.45	0.47	0.47	0.41	**0.85**	0.49	0.35	0.44	0.49
	AC	**AF**	**BE**	**BL**	**CO**	**COM**	**CUS**	**IN**	**INF**	**IT**	**NT**	**PRI**	**PUB**	**SA**	**SC**	**SE**	**SSF**	**SY**	**TC**	**TR**	**TW**

SSF4	0.38	0.36	0.46	0.40	0.45	0.47	0.40	0.35	0.43	0.49	0.46	0.45	0.42	0.37	0.35	0.29	**0.80**	0.39	0.33	0.32	0.36
SSF5	0.35	0.34	0.36	0.40	0.42	0.52	0.37	0.34	0.43	0.55	0.48	0.43	0.37	0.36	0.29	0.29	**0.78**	0.40	0.34	0.29	0.32
SY1	0.49	0.36	0.39	0.44	0.35	0.41	0.51	0.38	0.52	0.54	0.49	0.43	0.37	0.43	0.35	0.40	0.44	**0.87**	0.28	0.40	0.45
SY2	0.48	0.44	0.46	0.48	0.40	0.45	0.54	0.42	0.54	0.56	0.48	0.53	0.46	0.44	0.43	0.42	0.47	**0.88**	0.33	0.42	0.46
SY3	0.46	0.40	0.41	0.45	0.34	0.48	0.49	0.38	0.55	0.50	0.48	0.49	0.43	0.38	0.37	0.40	0.43	**0.81**	0.27	0.38	0.40
TC1	0.27	0.24	0.26	0.26	0.31	0.29	0.26	0.31	0.25	0.29	0.26	0.32	0.30	0.27	0.23	0.18	0.30	0.27	**0.78**	0.27	0.24
TC2	0.33	0.22	0.25	0.31	0.27	0.24	0.32	0.25	0.28	0.33	0.27	0.30	0.27	0.27	0.30	0.23	0.35	0.25	**0.86**	0.25	0.28
TC3	0.30	0.21	0.24	0.30	0.28	0.28	0.29	0.21	0.25	0.29	0.27	0.30	0.26	0.25	0.28	0.17	0.33	0.25	**0.83**	0.23	0.24
TC4	0.36	0.24	0.29	0.41	0.30	0.28	0.40	0.32	0.39	0.41	0.36	0.43	0.38	0.38	0.40	0.25	0.43	0.35	**0.87**	0.36	0.34
TR1	0.49	0.43	0.46	0.53	0.58	0.31	0.42	0.49	0.45	0.43	0.42	0.37	0.40	0.57	0.41	0.44	0.38	0.40	0.28	**0.93**	0.47
TR2	0.53	0.49	0.48	0.56	0.57	0.36	0.47	0.50	0.47	0.48	0.50	0.44	0.46	0.52	0.46	0.48	0.45	0.44	0.33	**0.93**	0.50
TR3	0.54	0.47	0.46	0.57	0.55	0.35	0.48	0.47	0.49	0.48	0.48	0.42	0.44	0.55	0.45	0.48	0.44	0.47	0.34	**0.94**	0.51
TW1	0.58	0.39	0.47	0.49	0.45	0.28	0.48	0.40	0.43	0.45	0.47	0.38	0.42	0.53	0.48	0.41	0.42	0.37	0.31	0.48	**0.87**
TW2	0.60	0.45	0.47	0.50	0.47	0.38	0.49	0.41	0.47	0.50	0.51	0.39	0.40	0.57	0.48	0.40	0.52	0.45	0.29	0.49	**0.87**
TW3	0.53	0.39	0.46	0.44	0.44	0.38	0.58	0.38	0.52	0.53	0.54	0.43	0.50	0.47	0.50	0.37	0.41	0.50	0.26	0.39	**0.81**

Please refer to Appendix A for the abbreviation of each construct.

Appendix C. Common method bias analysis.

Construct	Indicator	Substantive factor loading (R_1)	Substantive variance (R_1^2)	Method factor loading (R_2)	Method variance (R_2^2)
Active control	AC1	0.84***	0.71	0.06	0.00
	AC2	0.93***	0.86	0.03	0.00
	AC3	0.86***	0.74	0.03	0.00
Affective	AF1	0.85***	0.72	0.06	0.00
	AF2	0.93***	0.86	0.02	0.00
	AF3	0.93***	0.86	0.04	0.00
Behavioral	BE1	0.79***	0.62	0.02	0.00
	BE2	0.89***	0.79	0.09	0.01
	BE3	0.75***	0.56	0.07	0.01
Brand loyalty	BL1	0.97***	0.94	0.08	0.01
	BL2	0.99***	0.98	-0.09	0.01
	BL3	0.70**	0.49	**0.20*** **	0.04
Commitment	CO1	0.92***	0.85	-0.01	0.00
	CO2	0.85***	0.72	0.09	0.01
	CO3	0.97***	0.94	-0.08	0.01
Communality	COM1	0.83***	0.69	-0.02	0.00
	COM2	0.85***	0.72	0.03	0.0
	COM3	0.92***	0.85	0.00	0.00
	COM4	0.92***	0.85	-0.03	0.00
	COM5	0.87***	0.76	0.02	0.00
Customization	CUS1	0.71***	0.50	**0.19****	0.04
	CUS2	0.88***	0.77	-0.05	0.00
	CUS3	0.99***	0.98	-0.04	0.00
	CUS4	0.86***	0.74	0.00	0.00
Intellectual	IN1	0.77***	0.59	0.03	0.00
	IN2	0.88***	0.77	-0.02	0.00
	IN3	0.80***	0.64	0.08	0.01
Informativeness	INF1	0.71**	0.50	**0.12***	0.01
	INF2	0.88***	0.77	0.00	0.00
	INF3	0.98***	0.96	-0.02	0.00
	INF4	0.82***	0.67	0.01	0.00
Information transparency	IT1	0.74***	0.55	**0.18****	0.03
	IT2	0.86***	0.74	0.03	0.00
	IT3	0.80***	0.64	0.00	0.00
	IT4	0.84***	0.71	-0.03	0.00
Network transparency	NT1	0.70**	0.49	0.08	0.01
	NT2	0.76***	0.58	0.05	0.00

	NT3	0.96***	0.92	-0.09	0.01
	NT4	0.87***	0.76	-0.08	0.01
Construct	Indicator	Substantive factor loading (R_1)	Substantive variance (R_1^2)	Method factor loading (R_2)	Method variance (R_2^2)
Private engagement	PRI1	0.71***	0.50	0.11	0.01
	PRI2	0.94***	0.88	-0.09	0.01
	PRI3	0.97***	0.94	-0.10	0.01
Public engagement	PUB1	0.73***	0.53	0.09	0.01
	PUB2	0.99***	0.98	-0.10	0.01
	PUB3	0.67**	0.45	**0.15***	0.02
Satisfaction	SA1	0.93***	0.86	-0.01	0.00
	SA2	0.82***	0.67	0.01	0.00
	SA3	0.92***	0.85	0.00	0.00
Social comparison	SC1	0.93***	0.86	-0.02	0.00
	SC2	0.83***	0.69	0.06	0.00
	SC3	0.85***	0.72	0.00	0.00
	SC4	0.79***	0.62	0.06	0.00
Sensory	SE1	0.94***	0.88	-0.11	0.01
	SE2	0.92***	0.85	-0.04	0.00
	SE3	0.75***	0.56	0.10	0.01
Smart shopper feeling	SSF1	0.76***	0.58	0.07	0.01
	SSF2	0.86***	0.74	-0.04	0.00
	SSF3	0.81***	0.66	0.05	0.00
	SSF4	0.84***	0.71	-0.05	0.00
	SSF5	0.81***	0.66	-0.04	0.00
Synchronicity	SY1	0.91***	0.83	-0.06	0.00
	SY2	0.86***	0.74	0.02	0.00
	SY3	0.78***	0.61	0.04	0.00
Trait competiveness	TC1	0.77***	0.59	0.05	0.00
	TC2	0.88***	0.77	0.00	0.00
	TC3	0.85***	0.72	0.02	0.00
	TC4	0.90***	0.81	-0.01	0.00
Trust	TR1	0.97***	0.94	-0.06	0.00
	TR2	0.91***	0.83	0.04	0.00
	TR3	0.92***	0.85	0.02	0.00
Two-way communication	TW1	0.94***	0.88	-0.08	0.01
	TW2	0.87***	0.76	0.00	0.00
	TW3	0.75***	0.56	0.09	0.01
Average		**0.86**	**0.74**	**0.02**	**0.01**

* Significant at the p < .05; ** Significant at the p < .01; *** Significant at the p < .001.